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Testing Support for Evaluation of Inspection/Maintenance Issues Test Group No. 12

Hamilton Test Systems, Inc.
Phoenix, AZ

Prepared for

Environmental Protection Agency
Ann Arbor, MI

1980

U.S. Department of Commerce
National Technical Information Service
NTIS.

TESTING SUPPORT FOR EVALUATION OF INSPECTION/MAINTENANCE ISSUES

TEST GROUP NO. 12

by

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Phoenix, Arizona 85016

Contract No. 68-03-2829

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Prepared for

U. S. ENVIRONMENTAL PROTECTION AGENCY
Office of Mobile Source Air Pollution Control
Emission Control Technology Division
Ann Arbor, Michigan 48105

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The intention of this test group was to evaluate the effectiveness of the Portland inspection maintenance (I/M) program on light duty trucks (LDT's). 105 LDT's were recruited from the Portland area and tested in their as-received condition. The testing on each LDT consisted of a DEQ Idle Test, HTS Idle Test, FTP, Highway Fuel Economy Test (HFET), 50 MPH Cruise Test, Two Mode Test, two Four Mode Tests (one with a spark plug disconnected), Propane Gain Checks and a complete diagnostic check. All LDT's which failed the DEQ inspection test were taken to local repair facilities upon completion of the initial test sequence. The mechanics were told to make the necessary repairs to pass the DEQ inspection test with no mention being given that the vehicle was involved in a test program.

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5.11 TEST GROUP NO. 12 - EFFECT OF I/M ON LIGHT DUTY TRUCKS

5.11.1 SUMMARY

The intention of this test group was to evaluate the effectiveness of the Portland inspection maintenance I/M program on Light Duty Trucks (LDT's).

105 LDT's were recruited from the Portland area and tested in their as-received condition. The model years of the vehicles were 1976 (34), 1978 (33) and 1980 (38). Recruitment requirements for the 1976 and 1978 model year vehicles specified that the LDT's had to have passed their last DEQ inspection between 9 and 15 months prior to recruitment.

The testing on each LDT consisted of a DEQ Idle Test, HTS Idle Test, FTP, Highway Fuel Economy Test (HFET), 50 MPH Cruise Test, Two Mode Test, two Four Mode Tests (one with a spark plug disconnected), Propane Gain Checks and a complete diagnostic check.

All LDT's which failed the DEQ inspection test were taken to local repair facilities upon completion of the initial test sequence. The mechanics were told to make the necessary repairs to pass the DEQ inspection test with no mention being given that the vehicle was involved in a test program. Thirty-two LDT's failed the DEQ inspection, were repaired and then retested in accordance with the tests specified for the initial as-received test. The average FTP emissions and fuel economy results were as follows for the repaired vehicles:

	HC	CO	NOx	Fuel Economy
Initial Test:	3.31 gpm	44.5 gpm	3.89 gpm	14.5 mpg
After Repair:	2.68 gpm	33.5 gpm	3.46 gpm	14.3 mpg
% Difference:	-19%	-25%	-11%	-1%

The intent of the test group was to conduct commercial repair and restorative maintenance (RM) on every vehicle failing the DEQ inspection. However, only eleven of the 32 DEQ-failing vehicles actually received RM. The decision on whether to conduct RM after commercial repair was made on a case-by-case basis by the EPA Project Officer using these criteria:

- Is the engine at manufacturer's specifications for idle speed, ignition timing, and idle air-fuel ratio?
- Is the ignition system in good condition?
- Is internal engine repair indicated as necessary by emissions test results or engine diagnostic results?

If the above questions were answered in the negative, then RM was initiated, provided that the necessary replacement parts were available.

The average FTP emissions and fuel economy results for the three sets of tests on the eleven vehicles receiving commercial repairs and RM were as follows:

	HC	CO	NOx	Fuel Economy
Initial Test:	3.93 gpm	56.3 gpm	3.73 gpm	13.8 mpg
After Commercial Repair:	2.66 gpm	37.0 gpm	2.63 gpm	13.2 mpg
% Difference:	-32%	-34%	-29%	-4%
After RM:	2.48 gpm	29.2 gpm	3.65 gpm	14.3 mpg
% Difference:	-7%	-21%	+39%	+8%
TOTAL % DIFFERENCE:	-37%	-48%	-2%	+4%

5.11.2 VEHICLE SELECTION

The types of light duty trucks and the quantity of each were specified by EPA. The selection consisted of one hundred trucks of 1976, 1978, and 1980 model years from the Portland area. The makes of the selected trucks consisted of Chevrolet, Dodge, Ford, Datsun, Toyota, Courier, LUV and Jeep. The engine and transmission configurations were also specified and consisted of the most common types. The 1976 and 1978 model year vehicles were required to have passed their last DEQ inspection between 9 and 15 months prior to recruitment.

Using a computer tape of the Oregon Motor Vehicle Division registration information, a search was performed to provide a listing of owners of the desired light duty trucks.

5.11.3 VEHICLE RECRUITMENT

Thirty-four (34) 1976 model year, thirty-three (33) 1978 model year and thirty-eight (38) 1980 model year light duty trucks were recruited. A listing of the vehicles is provided on Table 5.11-1.

The incentives for recruitment included a U.S. Savings Bond (cash value $37.50), the use of a late model loan car, free repairs (if required), and a full tank of gas upon return of the participant's vehicle.

The legend for Tables 5.11-1 is as follows:

EPA NO.	- First digit represents model year (e.g. "0" means 1980)
CID	- Cubic Inch Displacement
FS	- Fuel Metering System
C	- No. of Cylinders
T	- Transmission (1=Manual, 2=Automatic)
AS	- Air System (1=Yes, 2=No, 3=Gulp Valve)
CC	- Catalytic Converter (1=Yes, 2=No)
EG	- EGR System (1=Yes, 2=No)
AC	- Air Conditioning (1=Yes, 2=No)
EI	- Electronic Ignition (1=Yes, 2=No)
GVW	- Gross Vehicle Weight
WT	- Vehicle Actual Weight

TABLE 5.11-1 VEHICLE IDENTIFICATION INFORMATION

EPA NO	VEH IDENT NO	MAKE	MODEL	CID	FS	C	T	AS	CC	EG	AC	EI	GVW	WT
01001	H720132330	DATSU	P/U	119	2V	4	1	2	1	1	2	1	4085	
01002	H720138818	DATSU	P/U	119	2V	4	1	2	1	1	2	1	4085	
01101	CCD14A1132751	CHEV	C-10	250	1V	6	1	2	1	1	2	1	4900	
01102	CCD14A114B252	CHEV	C-10	250	1V	6	2	2	1	1	1	1	5300	
01103	CCD14A1143728	CHEV	C-10	250	1V	6	1	2	1	1	2	1	5400	
01104	CCD14A1115960	CHEV	C-10	250	1V	6	1	2	1	1	2	1	5300	
01201	CCG14A1141373	CHEV	C-10	305	2V	8	2	2	1	1	2	1	4900	
01202	CCG14AJ125898	CHEV	C-10	305	2V	8	2	2	1	1	2	1	5400	
01301	CGL25A7124564	CHEV	G-20	350	4V	8	2	2	1	1	1	1	6600	4930
01302	CGL25A4112267	CHEV	G-20	350	4V	8	2	2	1	1	2	1	6600	4530
01303	CGL25A4111105	CHEV	G-20	350	4V	8	2	2	1	1	2	1	6600	4310
01304	CGL25A4107480	CHEV	G-20	350	4V	8	2	2	1	1	2	1	6600	4390
01305	CKL14A1108465	CHEV	K-10	350	4V	8	2	1	1	1	2	1	6200	4710
01306	CCL24A1109602	CHEV	C-20	350	4V	8	2	2	1	1	2	1	7100	6060
01307	CCL24AJ138937	CHEV	C-20	350	4V	8	1	1	1	1	2	1	7100	5090
01308	CGL25A4102701	CHEV	G-20	350	4V	8	2	2	1	1	1	1	6600	4530
01309	CCM24A1115135	CHEV	C-20	350	4V	8	2	1	2	2	1	1	8600	5300
01401	B21JEAX129773	DODGE	B200	318	2V	8	1	3	1	1	2	1	6100	4270
01402	D14ANAC122322	DODGE	D100	225	1V	6	1	1	1	1	2	1	4800	
01403	D14ANAC117715	DODGE	D100	225	1V	6	1	1	1	1	2	1	4800	
01404	D14ANAS111505	DODGE	D100	225	1V	6	1	1	1	1	2	1	4800	
01405	D24JEACI23673	DODGE	D200	318	2V	8	2	3	1	1	2	1	6500	4570
01406	D24JEAS119692	DODGE	D200	318	2V	8	2	3	1	1	2	1	7500	4640
01407	D24JEAS112186	DODGE	D200	318	2V	8	2	3	1	1	2	1	7500	4360
01501	F10EPHA2024	FORD	F100	300	1V	6	1	1	1	1	2	1	4700	
01502	F10EPHA7142	FORD	F100	300	1V	6	2	1	1	1	2	1	4700	
01503	F15ERGD5094	FORD	F150	300	1V	6	1	1	1	1	2	1	5450	
01601	E14FBGA3429	FORD	E100	302	2V	8	2	1	1	1	2	1	6200	4420
01602	F10FRGD4378	FORD	F100	302	2V	8	1	1	1	1	2	1	4700	
01603	F15FRGD0820	FORD	F150	302	2V	8	2	1	1	1	1	1	6100	3790
01604	F15FRGA1861	FORD	F150	302	2V	8	2	1	1	1	2	1	6100	4170
01701	F15GRHD3524	FORD	F150	351	2V	8	2	1	1	1	2	1	6100	4150
01702	F15GRHG3915	FORD	F150	351	2V	8	2	1	1	1	2	1	5450	
01703	F15GPH04428	FORD	F150	351	2V	8	2	1	1	1	1	1	6100	4350
01704	F25GRHA0017	FORD	F250	351	2V	8	2	1	1	1	2	1	6900	4360
02001	RN32038678	TOYOT	P/U	133	2V	4	1	1	2	1	2	1	4100	
02101	SGTBWU56992	FORD	COURI	140	2V	4	1	3	1	1	2	1	4100	
02201	CLN14A8209168	CHEV	LUV	111	2V	4	1	1	2	1	2	2	3550	

TABLE 5.11-1 VEHICLE IDENTIFICATION INFORMATION (CONT'D)

EPA NO	VEH IDENT NO	MAKE	MODEL	CID	FS	C	T	AS	CC	EG	AC	EI	GVW	WT
68001	HL620821300	DATSU	P/U	119	2V	4	1	1	2	1	2	2	3950	
68102	CCD146J158023	CHEV	C-10	250	1V	6	1	2	2	2	2	1	6050	4000
68201	CCL146Z108244	CHEV	C-10	350	4V	8	2	2	1	1	2	1	5300	
68202	CCL146F300717	CHEV	C-10	350	4V	8	2	2	2	2	2	1	6050	4650
68203	CCL146Z109562	CHEV	C-10	350	4V	8	2	2	2	2	2	1	6200	4460
68204	CCL146F300576	CHEV	C-10	350	4V	8	2	2	2	2	2	1	6050	4210
68205	CCL1461136070	CHEV	C-10	350	4V	8	1	2	2	2	2	1	6050	4150
68206	CCL146F314021	CHEV	C-10	350	4V	8	2	2	2	2	1	1	6050	4100
68207	CCL1461148646	CHEV	C-10	350	4V	8	2	2	2	2	2	1	6050	4780
68208	CCL146F445896	CHEV	C-10	350	4V	8	2	2	2	2	1	1	6200	4760
68209	CCL1461138447	CHEV	C-10	350	4V	8	2	2	1	1	2	1	5300	
68210	CCL1461138055	CHEV	C-10	350	4V	8	2	2	2	2	2	1	6050	5030
68211	CCL1461152452	CHEV	C-10	350	4V	8	2	2	2	2	2	1	6200	4940
68301	D14BB6S264928	DODGE	D100	225	1V	6	1	2	2	2	2	1	6100	3870
68401	B11AE6X044573	DODGE	B100	318	2V	8	2	2	1	1	1	1	4800	
68402	B21BE6X023675	DODGE	B200	318	2V	8	2	2	2	2	2	1	6100	4850
68403	B21BE6X026634	DODGE	B200	318	2V	8	2	2	2	2	2	1	6100	4240
68501	F15BRB75696	FORD	F150	300	1V	6	1	2	2	2	2	1	6050	4080
68502	F10BRB01683	FORD	F100	300	1V	6	1	1	1	1	2	1	4600	
68601	F10GRA78735	FORD	F100	302	2V	8	2	1	1	1	2	2	4600	
68602	F10GRA79404	FORD	F100	302	2V	8	2	1	1	1	2	1	4800	
68701	E11HHB92454	FORD	E100	351	2V	8	2	2	2	2	2	1	6300	4770
68702	E14HHB05123	FORD	E100	351	2V	8	2	2	2	2	1	1	6050	4820
68703	E14HHB55018	FORD	E100	351	2V	8	1	2	2	2	2	1	6050	4590
68704	E14HHB36354	FORD	E100	351	2V	8	2	2	2	2	2	1	6050	4810
68801	F15YRA78145	FORD	F150	360	2V	8	2	2	2	1	1	1	6050	5160
68802	F15YRB32307	FORD	F150	360	4V	8	2	2	2	2	1	1	6050	5030
68803	F15YRA76838	FORD	F150	360	2V	8	2	2	2	1	2	1	6050	4490
68804	F15YRA02301	FORD	F150	360	2V	8	2	2	2	1	2	1	6050	4190
68901	F15MRB30910	FORD	F150	390	4V	8	2	2	2	2	1	1	6050	4320
69301	RN23026818	TOYOT	P/U	133	2V	4	1	1	2	1	2	2	4100	
69302	RN23023995	TOYOT	P/U	133	2V	4	1	1	2	1	2	2	4100	
69401	SGTASD39447	FORD	COURI	110	2V	4	1	1	2	2	2	2	4100	
69501	CLN1458216340	CHEV	LUV	111	2V	4	1	1	2	1	2	2	3950	

TABLE 5.11-1 VEHICLE IDENTIFICATION INFORMATION (CONT'D)

EPA NO	VEH IDENT NO	MAKE	MODEL	CID	FS	C	T	AS	CC	EG	AC	EI	GVW	WT
88001	HLG260296866	DATSU	P/U	119	2V	4	1	1	2	1	2	2	4035	
88002	HLG620291893	DATSU	P/U	119	2V	4	1	1	2	1	1	1	4035	
88101	CCD148Z134258	CHEV	C-10	250	1V	6	1	2	1	1	2	1	4900	
88102	CCD148Z134799	CHEV	C-10	250	1V	6	1	2	1	1	2	1	4900	
88201	CCU148Z156005	CHEV	C-10	305	2V	8	2	2	1	1	2	1	5300	
88202	CGU1584143242	CHEV	G-10	305	2V	8	2	2	1	1	2	1	5400	
88203	CCU1481154289	CHEV	C-10	305	2V	8	2	2	1	1	2	1	5300	
88301	CCL148Z109666	CHEV	C-10	350	4V	8	2	2	1	1	2	1	5300	
88302	CCL148Z120203	CHEV	C-10	350	4V	8	1	2	1	1	2	1	5300	
88303	CCL148Z144109	CHEV	C-10	350	4V	8	2	2	1	1	2	1	5300	
88304	CCL248Z120465	CHEV	C-10	350	4V	8	2	2	2	2	1	1	6400	5100
88305	CCL148Z110583	CHEV	C-10	350	4V	8	2	2	1	1	2	1	5300	
88306	CCL248Z164092	CHEV	C-10	350	4V	8	1	2	2	2	1	1	6400	4460
88307	CCL148Z110275	CHEV	C-10	350	4V	8	2	2	1	1	2	1	4900	
88501	D14BB85112179	DODGE	D100	225	2V	6	2	2	2	2	2	1	6100	3850
88601	D17BE65118544	DODGE	D100	318	2V	8	2	2	2	2	2	1	6100	3990
88602	D14BE85219621	DODGE	D100	318	2V	8	1	2	2	2	2	1	6100	4020
88701	D14BF8S201924	DODGE	D100	360	2V	8	2	2	2	2	2	1	6100	4020
88702	D14BF8S196779	DODGE	D100	360	2V	8	2	2	2	2	2	1	6100	3920
88801	F15BLAK6049	FORD	F150	300	1V	6	1	2	2	2	2	1	6150	4040
88802	F15BRBC1474	FORD	F150	300	1V	6	2	2	2	2	2	1	6050	3850
88901	F10GRBE1278	FORD	F100	302	2V	8	2	2	1	1	2	1	4800	
88902	F10GRBA4436	FORD	F100	302	2V	8	1	2	1	1	1	1	4900	
89001	F25HRAJ7437	FORD	F250	351	2V	8	2	2	2	1	2	1	6800	4510
89002	F25HRAJ3480	FORD	F250	351	2V	8	1	2	2	1	1	1	6200	4320
89003	F15HRBC6279	FORD	F150	351	2V	8	2	2	2	1	1	1	6150	4650
89004	F15HRCA1149	FORD	F150	351	2V	8	1	2	2	1	2	1	6150	4510
89101	F15SRRJ8075	FORD	F150	400	2V	8	2	2	2	1	1	1	6100	4690
89102	F15SRAG5809	FORD	F150	400	2V	8	2	2	2	1	2	1	6150	4350
89201	J8MB3E8042747	JEEP	CJ5	258	1V	6	1	1	2	1	2	1	4150	
89401	RN23073007	TOYOT	P/U	133	2V	4	1	1	2	1	2	1	4100	
89501	SGTATG69211	FORD	COURI	110	2V	4	1	1	2	1	2	2	4075	
89601	CLN148B204931	CHEV	LUV	111	2V	4	1	1	2	2	2	2	4150	

5.11.4 TEST PROCEDURES

5.11.4.1 Initial Test Sequence

Each vehicle was tested in its as-received condition in accordance with the following sequence of tests:

- Idle Test at DEQ test station (Ref. para. 4.3.1)
- Idle Test at HTS facility (Ref. para.4.3.1)
- Federal Test Procedure (Ref. para. 4.3.3 and 4.3.4)
- 50 MPH Cruise Test (Ref. para.4.3.8)
- Highway Fuel Economy Test (HFET) (Ref. para. 4.3.6)
- Four Mode Idle Test (Ref. para. 4.3.9)
- Two Mode Test (Ref. para. 4.3.7)
- Four Mode Test with one spark plug disconnected
- Propane Gain Check (Ref. para. 4.3.10)
- Diagnostic Inspection (Ref. para. 4.3.2)

5.11.4.2 Repair and Retest

Every vehicle which failed the DEQ inspection test was taken to a local repair facility upon completion of the initial test sequence. Mechanics at the repair facilities were not told the vehicle was involved in a test program. They were instructed only to perform the necessary repairs to pass the DEQ inspection test.

The repair facilities were a mixture of independent garages, service stations, new car dealers, and chain stores. No more than two vehicles were taken to any one facility.

Thirty-two (32) vehicles failed the DEQ inspection test and were repaired and retested. The applicable DEQ HC and CO emissions standards for the vehicles in this group were as follows:

Hydrocarbons (HC)	Standard	Enforcement Tolerance
Catalyst Equipped	125 ppm	100 ppm
Noncatalyst	200 ppm	100 ppm
Above 8500 GVW (1980)	250 ppm	100 ppm

Carbon Monoxide (CO)		
Chev, Dodge, Ford - 1976 & 1978 Above 6000 GVW	2.0%	1.0%
Chev, Dodge, Ford - All others	0.5%	0.5%
Courier, Datsun, Toyota - Catalyst Equipped	0.5%	0.5%
Courier - Noncatalyst	1.5%	0.5%
Datsun, Toyota - Noncatalyst	2.0%	0.5%
Jeep - Noncatalyst	1.5%	0.5%
LUV - 1980	0.5%	0.5%
LUV - 1976 & 1978	1.5%	1.0%
Above 8500 GVW (1980)	2.0%	1.0%

After the repairs necessary to pass the DEQ inspection were completed, each vehicle was retested in accordance with the sequence of tests specified for the initial test.

5.11.4.3 **Restorative Maintenance and Retest**

Restorative Maintenance (RM) was performed on eleven (11) selected vehicles, as explained in 5.11.1. The restorative maintenance consisted of setting Dwell, Timing, Idle Speed and Idle Mixture to manufacturer's specifications, and repairing or replacing any faulty emission related components. After completing the required maintenance, all tests specified for the initial test sequence were repeated except the DEQ Idle Test.

5.11.4.4 Shift Speeds, Horsepower and Inertia Weight Settings

The actual horsepower and inertia weight settings used for the FTP and Highway Fuel Economy Test are shown on Table 5.11-7.

The shift speeds for vehicles with manual transmissions were as follows with the exceptions specified below:

	1-2	2-3	3-4
(4-Speed)	15 mph	25 mph	40 mph
(3-Speed)	15 mph	25 mph	

	LOW GEAR	1-2	2-3
1978 Ford with Heavy Duty 4-speed trans.:	Not Used	15 mph	25 mph
1978 Chevrolet with 4-speed transmission:	Not Used	15 mph	25 mph
1980 Chevrolet with 4-speed transmission:	Not Used	15 mph	40 mph
1978 Jeep with 4-speed transmission:	Not Used	15 mph	25 mph

	1-2	2-3	3-4	4-5
1978 Datsun with 5-speed trans.:	10 mph	20 mph	30 mph	40 mph

1976 Toyota with 5-speed trans. shifted to 5th gear at 45mph during the HFET.

5.11.4.5 Vehicle Weighing

EPA instructions were to weigh all LDT's having a gross vehicle weight (GVW) above 6000 lbs. The actual weights are shown on Table 5.11-1.

5.11.5 TEST RESULTS

A composite of the FTP results is shown on Table 5.11-2. HC, CO, CO_2, and NOx (corrected for humidity) emissions are in grams per mile.

The test results for each vehicle are provided in Tables 5.11-3 through Table 5.11-8. The contents of the tables are as follows:

Table 5.11-3	DEQ & HTS Idle Tests
Table 5.11-4	Two Mode & 50 MPH Cruise Tests
Table 5.11-5	Four Mode Test
Table 5.11-6	Four Mode Test - One Spark Plug Disabled
Table 5.11-7	FTP & HFET Tests
Table 5.11-8	Parameter & Propane Gain Checks

Table 5.11-9 provides the diagnosis and repair data obtained on the 32 vehicles which failed the DEQ inspection test. Comments are also provided relative to the effectiveness of the repairs as reflected by the FTP emission results.

TABLE 5.11-2

FTP COMPOSITE RESULTS

INITIAL TEST

	HC	CO	CO_2	NOx	MPG	QTY
Total Fleet	2.42	30.1	592.9	3.40	14.3	105
1980 Fleet	0.84	11.9	605.6	2.23	14.7	38
1980 Fed. Standards	1.7	18.0		2.3		
1978 Fleet	2.79	33.7	577.1	3.98	14.4	33
1976 Fleet	3.83	46.8	593.9	4.11	13.6	34
1978 Fleet < 5500 GVW	1.83	22.2	542.5	3.43	15.8	18
1976 Fleet < 5500 GVW	1.23	11.2	545.1	3.75	16.2	11
1976 & 1978 Fed. Standards	2.0	20.0		3.1		
1978 Fleet > 5500 GVW	3.94	47.5	618.7	4.65	12.7	15
1976 Fleet > 5500 GVW	5.07	63.8	617.2	4.29	12.3	23

COMMERCIAL REPAIR RESULTS

Initial Test	3.31	44.5	567.9	3.89	14.5	32
After Repair Test	2.68	33.5	594.7	3.46	14.3	32
% Change	-19%	-25%		-11%	-1%	

RESTORATIVE MAINTENANCE RESULTS

Initial Test	3.93	56.3	570.2	3.73	13.8	11
After Repair	2.66	37.0	632.7	2.63	13.2	11
% Change	-32%	-34%		-29%	-4%	
After RM	2.48	29.2	582.4	3.65	14.3	11
% Change	-7%	-21%		+39%	+8%	
TOTAL % CHANGE	-37%	-48%		-2%	+4%	

The legends for the tables are as follows:

EPA NO. - Identification Number (1st digit represents vehicle model year)

S - Test Sequence (1 = Initial, 2 = After Repair, 3 = After Restorative Maintenance)

Legend for Tables 5.11-3 through 5.11-6

1ST - Initial Idle Test
2500 - High Idle Test (2500 RPM)
2ND - Second Idle Test
HC - Hydrocarbons in ppm (measurements are in hexane in all readings except for "LAB" readings which are in total hydrocarbons.)
CO - Carbon Monoxide in Percent
NO_x - Oxides of Nitrogen in ppm
RPM - Engine Idle RPM
LAB - Laboratory Analyzers
GARAGE - EPA-75 Garage Analyzer
STA - Status (the three numbers represent the DEQ Pass/Fail status for HC, CO and RPM respectively. 1=Pass, 2=Fail, 3=Disconnect of an emission component.)

Legend for Table 5.11-7

ODOM - Odometer reading
IW - Inertia Weight settings
AHP - Actual Horsepower settings
HC - Hydrocarbon Emissions in grams per mile
CO - Carbon Monoxide Emissions in grams per mile
CO_2 - Carbon Dioxide Emissions in grams per mile
NO_x - Oxides of Nitrogen (uncorrected) Emissions in grams per mile
NO_xC - Oxides of Nitrogen Emissions corrected for humidity in grams per mile
MPG - Miles per gallon calculated by the Carbon Balance Method

Legend for Table 5.11-8

MECH ADV - Mechanical Advance
TOTAL ADV - Total Advance
GAIN CK - Propane Gain Check
SPEC - Specification
MEAS - Measured Value

N/A & NA - Not Applicable
DEC - Decrease in RPM
NEU - Neutral
DR - Drive

Legend for Table 5.11-9

INITIAL DIAG - Problems found during initial Diagnostic Inspection
DIAGNOSIS - Problems found during subsequent Diagnostic Inspection
FAIL - DEQ reason for failure
REPAIRS - Actual repairs performed
COMMENTS - General comments relative to the effectiveness of the repairs as reflected by the FTP emission results.

TABLE 5.11-3 DEQ & HTS IDLE TEST RESULTS

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
01001	1	180	75	195	3.9	.3	3.2	900	900	121	130	50	160	1.6	.3	2.7	900	890
01001	2	55	65	90	.1	.4	.0	900	900	111	40	20	30	.0	.0	.0	870	910
01002	1	45	80	70	.0	.0	.0	1250	1250	112	50	20	20	.0	.0	.0	1100	1160
01002	2	60	45	60	.5	.1	.6	800	800	111	50	20	90	.4	.0	.4	620	620
01101	1	70	35	75	.0	.0	.0	800	800	111	90	20	80	.0	.0	.0	810	820
01102	1	25	25	30	.0	.0	.0	800	800	111	60	10	60	.0	.0	.0	780	840
01103	1	20	20	25	.0	.0	.0	675	675	111	90	20	60	.0	.3	.0	690	720
01104	1	25	20	30	.0	.0	.0	1000	950	111	90	20	60	.0	.4	.0	950	980
01201	1	20	15	25	.0	.0	.0			11	100	20	50	.0	.0	.0	740	730
01202	1	45	20	30	.0	.0	.0	700	700	111	110	20	60	.0	.0	.0	690	700
01301	1	30	40	80	.0	.0	.0			11	130	30	90	.1	.2	.0	660	660
01302	1	40	25	40	.1	.1	.1			11	80	50	50	.0	1.0	.0	570	620
01303	1	130	45	140	.0	.1	.0			11	100	30	50	.0	.0	.0	670	670
01304	1	35	25	40	.0	.0	.0			11	60	70	40	.0	.9	.0	850	880
01305	1	30	20	30	.0	.0	.0	750	750	111	60	20	50	.0	.0	.0	710	740
01306	1	15	20	30	.0	.1	.0	700	700	111	40	20	30	.0	.0	.0	670	700
01307	1	25	25	30	.0	.0	.0	850	850	111	40	30	30	.0	.1	.0	790	800
01308	1	25	45	35	.5	2.1	.1			11	70	30	40	.0	.0	.0	910	940
01309	1	0	15	0	.1	.0	.1	900	900	111	50	20	50	.1	.1	.1	790	810
01401	1	25	30	95	.0	.0	.0			11	60	20	20	.0	.0	.0	680	690
01402	1	15	15	25	.0	.0	.0	600	600	111	40	20	30	.0	.0	.0	590	590
01403	1	110	95	70	.0	.0	.0	500	500	111	130	100	50	1.3	.4	.1	520	520
01404	1	35	20	45	.1	.0	.1	800	800	111	110	80	140	1.7	1.4	2.1	750	710
01405	1	25	20	30	.0	.0	.0	800	800	111	80	30	40	.0	.0	.0	610	630
01406	1	55	30	55	.0	.0	.0	850	850	111	100	60	80	.0	.0	.0	820	870
01407	1	135	55	125	1.0	.1	1.2	750	750	111	20	20	40	.0	.0	.0	690	750
01501	1	45	30	45	.0	.0	.0	625	625	111	140	90	100	.0	.0	.0	660	640
01502	1	20	45	30	.0	.0	.0	750	750	111	50	50	30	.0	.0	.0	760	760
01503	1	120	100	145	.0	.0	.0	700	700	111	130	90	80	.0	.0	.0	730	720

TABLE 5.11-3 DEQ & HTS IDLE TEST RESULTS (CONT'D)

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
01601	1	30	40	40	.0	.0	.0			11	60	30	50	.0	.0	.0	910	900
01602	1	25	85	45	.0	.1	.0	650	650	111	100	50	50	.0	.0	.0	680	720
01603	1	315	250	230	.0	.0	.0	700	700	111	190	120	90	.0	.0	.0	760	790
01604	1	50	40	45	.0	.0	.0	700	750	111	50	20	30	.0	.0	.0	680	700
01701	1	35	70	40	.0	.0	.0	900	950	111	110	20	10	.0	.0	.0	820	880
01702	1	120	90	90	.0	.0	.0	850	850	111	120	120	70	.0	.0	.0	830	860
01703	1	35	65	15	.1	.0	.0	800	800	111	40	60	10	.0	.0	.0	940	930
01704	1	40	55	30	.0	.0	.0	850	850	111	30	40	20	.0	.0	.0	950	960
02001	1	25	30	45	.4	.3	.4	850	850	111	30	20	40	.4	.4	.6	870	850
02101	1	190	15	120	5.3	.0	3.9	850	850	121	220	40	200	3.9	.0	4.1	830	850
02101	2	15	20	20	.0	.1	.0	900	900	111	20	20	20	.0	.0	.0	830	880
02201	1	35	35	45	.6	.2	.6	1000	1000	111	50	30	50	.6	.3	.6	980	990
68001	1	70	55	60	.5	.4	.5	1150	1200	112	60	30	40	.5	.5	.6	1160	1230
68001	2	50	45	50	.1	.3	.1	900	900	111	90	50	60	.3	.4	.2	850	860
68001	3										90	30	50	.3	.4	.2	760	780
68102	1	1980	290	900	2.9	.1	3.0	750	750	221	140	50	150	3.2	.5	3.2	720	720
68102	2	130	45	175	1.0	.1	.9	800	800	111	160	50	130	1.6	.3	1.8	720	720
68201	1	140	40	235	.4	.0	.7	700	700	111	70	20	100	.1	.0	.0	910	650
68202	1	115	280	160	.1	.4	.1	550	550	111	30	40	120	.1	.4	.1	770	620
68203	1	70	85	110	2.4	1.0	1.9	850	850	111	70	30	80	1.5	.2	1.7	840	860
68204	1	90	130	135	1.7	4.1	1.1	850	850	111	130	130	100	.8	3.1	.7	700	720
68205	1	65	100	120	1.2	2.6	1.2	700	700	111	140	50	120	1.6	.7	1.3	660	670
68206	1	90	85	120	2.6	2.5	3.4	800	800	111	90	40	100	1.1	.3	1.2	770	780
68207	1	165	175	190	2.6	3.4	2.4	650	650	121	190	70	170	2.6	.6	2.8	640	650
68207	2	85	120	135	.6	.2	.5			11	130	80	120	.3	.6	.3	580	600
68208	1	340	140	360	8.3	1.6	7.6	800	800	221	300	60	310	7.7	.3	7.7	790	780
68208	2	70	60	115	1.0	.3	.8	800	800	111	70	20	90	.7	.2	.7	810	820

TABLE 5.11-3 DEQ & HTS IDLE TEST RESULTS (CONT'D)

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
68209	1	75	55	105	.0	.1	.0	800	800	111	100	50	110	.2	.3	.3	800	820
68210	1	25	20	30	.6	.1	.5	900	950	111	50	20	40	.5	.2	.7	740	880
68211	1	20	25	35	.3	.1	.4	1150	1200	112	20	20	30	.2	.1	.3	1080	1180
68211	2	65	50	85	.6	.1	.4	750	750	111	60	30	60	.3	.2	.4	820	810
68301	1	135	80	175	4.1	.5	3.5	650	650	121	140	50	140	3.1	.2	3.4	630	650
68301	2	100	70	175	1.7	.1	1.8	550	550	111	100	50	90	.5	.2	.6	540	570
68401	1	25	35	60	.2	.0	.4			11	20	10	30	.2	.2	.4	840	930
68402	1	85	95	120	1.5	.8	1.2			11	120	60	130	1.5	.6	1.7	1100	1110
68403	1	35	45	85	.3	.4	.5			11	90	40	90	.5	.2	.5	710	760
68501	1	105	60	130	4.2	.6	3.9	850	850	121	50	20	70	.3	.1	.9	730	760
68501	2	55	45	105	.4	.1	.2	800	800	111	70	20	40	.1	.1	.1	760	780
68502	1	25	60	30	.0	.0	.0	950	950	111	20	90	20	.0	.0	.0	920	990
68601	1	295	100	270	2.5	.1	2.1	800	800	221	290	80	110	1.6	.0	.1	820	830
68601	2	30	35	40	.0	.1	.0	850	850	111	80	30	50	.0	.0	.0	830	840
68601	3										180	50	130	.1	.0	.0	790	880
68602	1	250	85	70	4.6	.1	.0	900	900	111	60	60	60	.2	.1	.1	920	1030
68701	1	155	75	185	.1	.2	.1	700	700	111	190	80	160	.7	.2	.6	650	700
68702	1	210	65	365	.8	.1	.9			11	180	50	200	.9	.2	1.1	760	790
68703	1	480	120	485	.1	.1	.1			21	990	140	750	.2	.1	.2	940	1010
68703	2	55	15	105	.1	.0	.1			11	110	40	80	.2	.1	.2	870	880
68704	1	100	60	225	.9	.1	.8			11	160	110	140	.5	.2	.6	850	860
68801	1	200	110	200	6.4	3.4	5.3	650	650	121	160	70	170	2.5	1.2	3.0	650	680
68801	2	140	65	130	1.9	.9	.6	650	650	111	140	60	120	1.3	1.2	1.5	680	690
68802	1	185	145	190	5.8	5.1	4.5	750	750	121	90	50	130	.6	.6	2.9	730	790
68802	2	110	170	120	3.1	3.0	2.7	800	800	111	110	40	120	.7	.4	1.5	780	810

TABLE 5.11-3 DEQ & HTS IDLE TEST RESULTS (CONT'D)

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
68803	1	145	190	180	1.0	5.2	1.0	600	600	111	150	180	150	.5	2.2	.6	550	580
68804	1	120	100	240	2.8	1.9	2.3	700	650	111	100	20	110	1.7	.6	2.1	640	670
68901	1	665	160	630	9.8	6.4	9.9	600	600	221	660	170	540	10.4	5.3	10.4	600	640
68901	2	330	115	290	.8	2.9	.6	600	600	111	630	200	330	.5	3.0	3.0	550	620
68901	3										140	140	150	.5	3.6	.5	840	850
69301	1	15	35	35	.6	.3	.6	950	950	111	40	20	40	.8	.3	.7	900	960
69302	1	15	15	45	.5	.2	.4	800	800	111	40	20	30	1.0	.1	.8	870	930
69401	1	20	15	35	.5	.4	.4	825	825	111	30	20	30	.5	.5	.6	940	950
69501	1	50	40	50	.6	.1	.4	1200	1400	11*	40	30	40	.7	.3	.7	940	960
69501	2	40	45	55	.8	.2	.8	1100	1100	111	60	30	60	.9	.3	.7	830	880
88001	1	65	65	75	.8	.1	.1	800	800	111	80	80	60	.3	.2	.3	700	740
88002	1	50	40	45	.2	.1	.2	950	950	111	80	50	70	.3	.1	.4	880	880
88101	1	390	120	420	5.2	.4	4.9	800	800	221	360	80	380	4.1	.0	4.2	760	780
88101	2	70	40	85	.0	.0	.0	800	800	111	130	20	120	.0	.0	.0	750	740
88102	1	215	95	208	1.3	.9	1.2	750	800	121	190	60	190	.7	.8	.8	810	790
88102	2	80	85	75	.0	1.2	.0	1000	1000	111	90	80	90	.0	1.4	.0	840	860
88102	3										160	30	130	.0	.0	.0	790	820
88201	1	285	75	260	1.2	.1	.8	800	800	221	260	90	280	.9	.4	1.2	860	870
88201	2	35	40	35	.0	.0	.0	1050	1050	111	110	30	110	.0	.0	.0	1020	1030
88202	1	80	65	80	.0	.1	.0			11	120	60	90	.0	.0	.0	860	880
88203	1	255	105	345	3.1	.1	1.8	850	850	221	350	90	370	1.8	.1	1.7	750	780
88203	2	75	40	75	.4	.0	.4	1000	1000	111	90	40	90	.0	.0	.0	890	960
88301	1	290	100	295	6.2	.3	5.7	750	750	223	330	110	320	5.2	.5	2.2	750	750
88301	2	20	35	40	.0	.0	.0			11	20	10	20	.0	.0	.0	700	720
88301	3										30	20	30	.0	.0	.0	590	630

* DISCONNECT & RPM FAIL

TABLE 5.11-3 DEQ & HTS IDLE TEST RESULTS (CONT'D)

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
88302	1	175	65	235	2.5	.0	2.8	700	700	121	310	60	300	4.2	.0	4.1	710	710
88302	2	95	35	75	.8	.0	.5	800	800	111	140	140	120	.0	.6	.0	690	700
88302	3										170	50	150	.0	.0	.0	620	620
88303	1	400	120	460	4.6	.1	4.8	600	600	221	540	370	550	4.8	.4	5.1	610	610
88303	2	55	55	40	.0	.0	.0	750	750	111	70	160	60	.0	.1	.0	700	730
88303	3										120	80	80	.1	.0	.0	700	670
88304	1	165	60	85	.6	.6	.6	700	700	111	100	20	100	.8	.2	.8	750	720
88305	1	225	60	240	1.6	.1	1.3	800	800	221	580	120	460	.3	.5	.6	560	580
88305	2	35	90	50	.0	.0	.0	900	900	111	90	40	70	.4	.3	.2	920	910
88306	1	85	50	110	.2	.1	.1	650	650	111	170	50	130	.2	.1	.2	660	660
88307	1	10	15	30	.0	.0	.0	800	800	111	90	30	60	.0	.0	.0	740	750
88501	1	595	140	505	9.8	.5	8.5	500	500	221	420	160	460	7.8	1.5	7.9	520	500
88501	2	65	125	190	.7	1.5	.5			11	130	80	130	.2	.8	.4	700	690
88501	3										50	50	50	.6	.4	.6	710	720
88601	1	95	85	175	.1	.5	.1	600	600	111	90	50	90	.2	.1	.2	610	610
88602	1	65	55	110	.8	.3	.7	700	700	111	60	30	50	.2	.2	.4	630	660
88701	1	285	95	190	2.1	1.1	1.9	700	700	111	270	50	170	2.3	.2	2.3	670	640
88702	1	85	60	90	2.2	.6	1.9	900	900	111	90	60	90	1.6	.4	1.9	900	920
88801	1	125	65	195	.9	.1	.4	750	750	111	180	60	130	.7	.1	.8	750	750
88802	1	145	80	195	2.9	.2	2.8	650	700	121	170	50	170	3.7	.2	3.7	690	700
88802	2	135	75	125	2.2	.2	1.9	750	750	111	100	30	90	1.2	.2	.9	740	780
88901	1	190	65	195	3.1	.1	2.8	750	750	121	210	80	180	2.5	.3	2.5	730	750
88901	2	105	55	95	.2	.0	.5	700	700	111	70	30	60	.0	.0	.0	640	630
88901	3										50	20	60	.0	.0	.0	840	860
88902	1	135	175	220	2.0	.7	1.9	800	800	121	190	70	170	1.1	.2	1.2	780	820
88902	2	65	60	80	.0	.1	.0	900	900	111	90	30	60	.0	.0	.0	950	990
88902	3										90	30	40	.2	.0	.1	750	750

TABLE 5.11-3 DEQ & HTS IDLE TEST RESULTS (CONT'D)

		DEQ IDLE TEST									HTS IDLE TEST							
		HC			CO			RPM			HC			CO			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
89001	1	225	85	215	4.5	.4	3.6	650	650	221	270	60	230	2.5	.3	2.7	590	650
89001	2	90	75	140	1.8	.7	1.2	800	850	111	140	40	90	.9	.3	.9	830	840
89002	1	90	55	115	2.5	.7	2.2	850	850	121	150	30	200	1.0	.4	1.0	770	790
89002	2	35	35	75	1.0	.2	.9	700	700	111	50	20	40	.5	.4	.4	600	620
89002	3										140	40	130	.4	.2	.4	640	660
89003	1	150	165	190	1.0	.5	.6	1150	1150	112	160	60	160	.2	.2	.3	1050	1070
89004	1	50	255	120	.2	.3	1.9	800	800	111	90	120	100	1.3	.4	1.4	820	830
89101	1	665	300	925	2.5	.9	2.2	550	550	221	700	140	700	2.8	.3	2.5	560	570
89101	2	140	130	270	2.2	.4	1.9	750	750	111	550	170	290	.9	.2	1.0	720	750
89102	1	140	50	185	3.3	.6	3.3	750	750	121	180	90	160	2.6	.5	2.8	750	750
89102	2	100	200	185	2.6	.6	2.9	900	900	111	120	50	120	1.6	.3	1.7	820	840
89201	1	35	95	60	.8	.1	.6	800	800	111	40	20	40	.7	.1	.7	730	740
89401	1	80	73	75	.3	.1	.4	1000	1000	111	90	30	60	.2	.5	.3	780	840
89501	1	30	30	40	.7	.1	.6	600	600	111	40	10	30	1.0	.3	.9	630	620
89601	1	175	150	155	.6	.2	.5	900	900	111	60	30	50	.3	.3	.4	870	920

TABLE 5.11-4 TWO MODE & 50 MPH CRUISE TESTS

		---TWO MODE (30MPH)--					---TWO MODE (IDLE)---					----50 MPH CRUISE----				
		-----LAB-----			GARAGE		-----LAB----			GARAGE		-----LAB-----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
01001	1	837	.0	1191	60	.0	883	1.2	26	60	1.3	935	.1	915	70	.1
01001	2	599	.0	952	40	.0	296	.0	39	20	.0	792	.1	740	50	.1
01002	1	388	.0	1284	40	.0	91	.0	61	20	.0	516	.0	1501	50	.0
01002	2	455	.0	1087	40	.0	1073	.8	6	90	.8	1556	.1	1244	120	.1
01101	1	119	.0	229	30	.0	128	.0	21	30	.0	773	.0	503	90	.0
01102	1	106	.0	1286	20	.0	140	.0	79	10	.0	85	.0	2396	20	.0
01103	1	56	.0	233	0	.0	179	.0	58	30	.0	59	.0	367	0	.0
01104	1	1128	1.1	71	100	1.2	161	.0	54	40	.0	675	2.6	104	70	2.6
01201	1	332	.2	477	60	.4	185	.0	88	40	.0	142	.0	1499	50	.0
01202	1	314	.0	795	60	.0	314	.0	61	60	.0	82	.0	925	40	.0
01301	1	1439	2.0	153	100	2.2	460	.0	53	60	.0	512	.1	203	60	.1
01302	1	1856	2.2	116	170	2.1	363	.0	24	40	.0	1914	1.2	408	150	1.1
01303	1	253	.0	239	20	.0	278	.0	51	30	.0	792	.0	635	70	.0
01304	1	48	.0	246	30	.0	333	.0	46	40	.0	1269	1.0	865	90	1.0
01305	1	272	.0	328	40	.0	247	.0	66	50	.0	94	.0	605	30	.0
01306	1	146	.0	528	30	.0	232	.0	46	40	.0	85	.0	640	20	.0
01307	1	51	.0	373	20	.0	97	.0	85	20	.0	51	.0	705	20	.0
01308	1	189	.0	405	40	.0	305	.0	65	60	.0	816	.0	913	90	.0
01309	1	287	.1	478	40	.0	342	.1	50	50	.1	262	.1	1126	40	.1
01401	1	235	.0	737	40	.0	140	.0	31	20	.0	1036	.0	820	100	.0
01402	1	411	.0	228	60	.0	414	.0	48	60	.0	1886	.0	684	140	.0
01403	1	216	.0	331	60	.0	262	.0	21	60	.0	522	.0	877	90	.0
01404	1	210	.0	428	30	.0	272	.0	29	40	.0	189	.0	1162	40	.0
01405	1	128	.0	999	40	.0	180	.0	56	40	.0	204	.0	782	40	.0
01406	1	149	.0	755	50	.0	122	.0	290	40	.0	847	.0	1056	100	.0
01407	1	149	.0	493	40	.0	67	.0	72	20	.0	119	.0	906	30	.0
01501	1	277	.0	1262	50	.0	631	.0	63	70	.0	329	.0	567	40	.0
01502	1	265	.0	161	20	.0	363	.0	26	20	.0	210	.0	480	10	.0
01503	1	229	.0	1144	40	.0	409	.0	51	50	.0	1159	.0	675	70	.0

TABLE 5.11-4 TWO MODE & 50 MPH CRUISE TESTS (CONT'D)

		---TWO MODE (30MPH)--					---TWO MODE (IDLE)---					----50 MPH CRUISE----				
		-----LAB-----			GARAGE		-----LAB----			GARAGE		-----LAB-----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
01601	1	339	.0	348	40	.0	232	.0	88	20	.0	278	.0	431	50	.0
01602	1	333	.0	698	40	.0	207	.0	51	20	.0	146	.0	513	20	.0
01603	1	437	.0	231	60	.0	914	.0	66	120	.0	1134	.0	505	100	.0
01604	1	97	.0	95	30	.0	119	.0	35	40	.0	226	.0	160	60	.0
01701	1	322	.0	362	60	.0	246	.0	103	50	.0	2066	.0	477	180	.0
01702	1	223	.0	251	40	.0	639	.0	109	100	.0	180	.0	326	40	.0
01703	1	210	.0	211	40	.0	125	.0	46	30	.0	122	.0	321	30	.0
01704	1	106	.0	165	40	.0	36	.0	55	30	.0	67	.0	365	40	.0
02001	1	607	.6	724	80	.7	335	.3	48	50	.3	387	.3	1060	60	.3
02101	1	234	.0	415	50	.0	169	.1	16	40	.3	1730	.1	564	160	.1
02101	2	301	.0	769	40	.0	237	.0	73	30	.0	1546	.0	943	80	.0
02201	1	1035	.3	253	80	.3	537	.5	48	60	.5	1971	.5	489	160	.6
68001	1	910	.2	1055	80	.2	524	.2	56	60	.2	1402	.3	1723	100	.4
68001	2	974	.2	1013	80	.3	662	.2	51	60	.3	1372	.3	1698	120	.4
68001	3	1167	.2	1250	80	.2	956	.1	51	60	.1	656	.4	1885	120	.4
68102	1	914	.1	703	60	.1	1841	2.0	41	120	2.0	577	.1	1623	40	.1
68102	2	853	.1	730	60	.1	1985	1.1	49	160	1.2	415	.1	1631	30	.1
68201	1	491	.0	307	60	.0	509	.0	53	80	.0	429	.0	1108	60	.0
68202	1	1877	.1	1307	130	.1	1598	.1	61	120	.1	3290	.2	2496	220	.2
68203	1	1161	.1	1215	90	.1	1485	1.4	71	100	1.6	1886	.1	2187	120	.1
68204	1	3350	2.6	437	220	2.6	1136	.4	81	100	.5	2752	1.2	1319	160	1.3
68205	1	2167	1.9	238	120	2.0	1794	1.2	43	120	1.3	1617	.1	784	150	.1
68206	1	1840	.5	1010	130	.6	1681	1.0	71	120	1.2	1366	.3	2451	110	.3
68207	1	2789	.7	1259	180	.5	2413	1.4	71	140	1.5	2649	.2	2491	190	.2
68207	2	2373	.9	1112	160	.9	1180	.3	66	90	.3	1428	.2	2441	90	.2
68208	1	1953	.2	1898	140	.3	6979	2.2	78	320	.2	1262	.1	2496	80	.1
68208	2	1718	.1	1661	130	.1	1161	.4	78	90	.5	1555	.1	2496	120	.1

TABLE 5.11-4 TWO MODE & 50 MPH CRUISE TESTS (CONT'D)

	---TWO MODE (30MPH)--					---TWO MODE (IDLE)---					----50 MPH CRUISE----				
	-----LAB-----			GARAGE		-----LAB----			GARAGE		-----LAB-----			GARAGE	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
68209 1	956	.1	385	100	.1	791	.1	73	100	.1	2267	.0	1439	240	.0
68210 1	1770	.1	1108	100	.1	1115	.7	83	50	.8	1638	.2	2082	90	.2
68211 1	1168	.1	1651	80	.1	437	.2	126	30	.1	1134	.1	2491	70	.1
68211 2	1269	.1	1723	110	.1	951	.4	84	80	.5	1948	.1	2496	160	.1
68301 1	1189	.1	1718	90	.1	1985	2.6	44	100	2.5	700	.1	2491	50	.1
68301 2	189	.0	278	10	.0	143	.1	9	10	.1	314	.1	1201	20	.1
68401 1	784	.1	1255	70	.1	252	.1	98	30	.1	1158	.5	2122	70	.6
68402 1	3029	.6	1489	220	.7	1779	.8	96	120	1.0	3641	.5	2379	240	.6
68403 1	2122	.2	1206	140	.2	816	.2	91	60	.2	2474	.2	2204	150	.2
68501 1	668	.1	235	50	.1	1607	1.3	66	80	1.4	310	.1	626	20	.1
68501 2	999	.1	233	70	.1	714	.1	68	70	.1	1822	.1	509	60	.1
68502 1	394	.0	807	30	.0	272	.0	41	20	.0	434	.0	456	40	.0
68601 1	654	.0	1538	50	.0	501	.0	74	60	.0	470	.1	2042	40	.1
68601 2	396	.0	517	60	.1	469	.0	58	70	.0	1433	.1	881	140	.1
68601 3	1240	.0	1424	120	.1	1295	.0	83	170	.0	2060	.1	1793	160	.2
68602 1	1137	.0	705	100	.0	455	.1	71	40	.1	941	.1	1618	80	.1
68701 1	1113	.1	663	110	.1	1284	.4	46	120	.4	1250	.1	1940	120	.1
68702 1	1465	.1	1054	120	.1	3969	.7	61	200	.8	1660	.2	2367	100	.2
68703 1	779	.1	194	70	.1	6054	.1	41	600	.1	550	.1	902	40	.1
68703 2	2037	.1	945	170	.2	2746	1.0	54	200	1.1	3197	.1	2249	240	.2
68704 1	1287	.1	912	100	.1	951	.5	71	300	.5	1140	.2	1768	80	.2
68801 1	2418	1.0	711	160	1.1	3130	3.7	71	190	3.8	5385	2.7	432	340	2.7
68801 2	2268	.9	674	140	1.5	1971	.8	71	140	1.2	5004	2.6	377	280	2.8
68802 1	2000	1.7	680	120	1.2	2174	2.5	46	110	2.6	1550	.5	1641	80	.5
68802 2	1878	.6	1194	120	.7	1994	1.5	66	120	1.4	1526	.5	1843	100	.5

TABLE 5.11-4 TWO MODE & 50 MPH CRUISE TESTS (CONT'D)

EPA NO	S	---TWO MODE (30MPH)--- -----LAB----- HC	CO	NOX	GARAGE HC	CO	---TWO MODE (IDLE)--- -----LAB---- HC	CO	NOX	GARAGE HC	CO	----50 MPH CRUISE---- -----LAB----- HC	CO	NOX	GARAGE HC	CO
68803	1	9999	.6	605	1150	.6	2996	.1	46	380	.1	9999	1.5	670	1380	1.4
68804	1	2687	.6	858	200	.6	2473	2.2	73	170	2.4	2642	1.6	542	160	1.7
68901	1	3571	5.1	193	190	5.0	9999	9.5	36	600	9.4	4814	4.2	390	240	4.4
68901	2	2809	1.9	372	180	1.9	9999	.1	53	1200	.2	3029	3.3	534	130	3.4
68901	3	2443	2.1	557	150	2.0	1265	.3	93	70	.4	4804	3.2	906	280	3.4
69301	1	244	.1	433	20	.1	281	.5	39	30	.5	743	.2	1326	50	.2
69302	1	191	.1	719	60	.1	277	.4	46	60	.6	662	.1	2107	70	.2
69401	1	32	.1	205	20	.1	81	.1	28	30	.1	124	.0	322	40	.0
69501	1	800	.1	564	70	.1	506	.4	51	60	.4	769	.2	1030	80	.2
69501	2	729	.2	564	80	.2	442	.4	56	60	.4	1256	.2	1025	100	.2
88001	1	1204	.1	908	120	.1	674	.1	46	80	.1	1467	.1	1063	140	.1
88002	1	691	.1	2402	80	.1	614	.4	57	60	.4	388	.2	2499	50	.2
88101	1	567	.0	811	60	.0	5676	3.9	46	360	3.8	518	.0	1232	60	.0
88101	2	99	.0	696	30	.0	325	.0	68	60	.0	130	.0	918	30	.0
88102	1	2138	.4	595	180	.4	2382	.8	29	200	.8	2113	.1	638	170	.1
88102	2	2144	.7	705	160	.7	538	.0	26	80	.0	740	.1	421	70	.1
88102	3	577	.0	917	70	.0	504	.0	71	50	.0	311	.0	685	40	.0
88201	1	338	.0	352	50	.0	791	.1	13	110	.1	491	.0	1225	60	.0
88201	2	362	.0	352	60	.0	307	.0	123	50	.0	277	.0	1250	40	.0
88202	1	966	.0	301	60	.0	853	.0	69	100	.0	1514	.0	1419	130	.0
88203	1	1306	.0	1058	110	.0	3678	1.8	62	230	1.8	1306	.0	2374	120	.0
88203	2	703	.0	655	90	.0	1648	.3	87	130	.4	455	.0	1624	80	.0
88301	1	409	.0	221	30	.0	2756	2.6	29	170	2.6	333	.0	1032	40	.0
88301	2	140	.0	139	10	.0	180	.0	51	20	.0	327	.0	368	40	.0
88301	3	694	.0	226	50	.0	1281	.1	21	130	.1	1599	.0	935	130	.0

TABLE 5.11-4 TWO MODE & 50 MPH CRUISE TESTS

		---TWO MODE (30MPH)--					---TWO MODE (IDLE)---					----50 MPH CRUISE----				
		-----LAB-----			GARAGE		-----LAB----			GARAGE		-----LAB-----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
88302	1	339	.0	139	60	.0	2639	.9	21	200	1.0	1459	.0	688	160	.0
88302	2	232	.0	171	30	.0	792	.0	29	100	.0	100	.0	800	20	.0
88302	3	186	.0	226	20	.0	458	.0	29	60	.0	541	.0	1064	70	.0
88303	1	492	.0	333	50	.0	4319	2.7	46	300	2.8	1816	.0	957	150	.0
88303	2	207	.0	273	40	.0	229	.0	91	40	.0	1174	.0	603	130	.0
88303	3	229	.0	308	20	.0	434	.0	74	50	.0	302	.0	1087	30	.0
88304	1	935	.1	805	70	.1	1272	.6	64	100	.7	914	.1	2284	70	.1
88305	1	235	.0	301	30	.0	339	.0	51	50	.0	1088	.0	1119	110	.0
88305	2	472	.0	293	70	.0	448	.0	103	60	.0	1525	.0	659	160	.0
88306	1	1287	.1	488	100	.1	8560	.1	26	920	.1	1486	.1	1396	140	.1
88307	1	259	.0	151	40	.0	253	.0	39	40	.0	1229	.0	670	110	.0
88501	1	2450	1.3	1411	140	1.2	6284	1.8	26	300	4.7	2532	1.9	2090	150	1.9
88501	2	2694	2.2	1037	170	2.0	1214	.7	71	60	.8	2535	2.0	2015	140	2.1
88501	3	2349	.8	1713	190	.8	1397	.9	64	110	.9	1930	.1	2491	160	.1
88601	1	1779	.1	1162	150	.1	1632	.1	81	120	.2	2345	.1	1815	200	.2
88602	1	1459	.1	528	100	.1	538	.3	41	50	.3	1868	.1	1481	140	.1
88701	1	1748	.4	851	140	.5	1745	2.1	53	120	2.1	2658	.2	2080	200	.2
88702	1	1336	.2	850	80	.2	1459	1.3	49	100	1.2	590	.1	1713	40	.2
88801	1	865	.1	495	70	.1	1250	.7	51	110	.7	675	.1	989	60	.1
88802	1	902	.1	945	60	.1	1985	2.5	46	100	2.5	623	.1	1364	40	.1
88802	2	1005	.1	901	20	.1	1402	.8	91	50	.9	745	.1	1369	0	.1
88901	1	442	.0	831	80	.0	2755	1.5	58	200	1.7	387	.0	2496	60	.0
88901	2	399	.0	422	60	.0	393	.0	71	60	.0	310	.0	1150	30	.0
88901	3	179	.0	268	60	.0	534	.0	91	80	.0	209	.0	1070	50	.0
88902	1	2449	.1	1965	210	.1	2626	1.4	86	180	1.5	1923	.0	2496	170	.0
88902	2	428	.0	999	70	.0	431	.0	86	60	.0	431	.0	2207	80	.0
88902	3	489	.0	1518	80	.0	311	.0	69	40	.0	1272	.0	2491	140	.0

TABLE 5.11-4 TWO MODE & 50 MPH CRUISE TESTS (CONT'D)

		---TWO MODE (30MPH)--					---TWO MODE (IDLE)---					----50 MPH CRUISE----				
		-----LAB-----			GARAGE		-----LAB----			GARAGE		-----LAB-----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
89001	1	1526	.1	1281	100	.1	2346	2.0	46	160	2.0	2199	.3	2491	150	.3
89001	2	1770	.4	1085	140	.6	1332	.9	73	100	1.0	1782	.5	2496	140	.7
89002	1	1207	.2	679	90	.2	2014	.8	53	180	.9	3310	1.2	1536	200	1.3
89002	2	815	.2	415	70	.2	821	.4	61	80	.4	3330	1.6	1093	200	1.8
89002	3	1164	.1	711	90	.1	2789	.3	58	240	.3	3450	1.2	2055	240	1.4
89003	1	1733	.6	1217	150	.7	965	.6	78	80	.9	1500	.2	2496	110	.2
89004	1	1930	.4	730	150	.6	1284	1.4	51	80	1.4	3217	.3	2342	240	.3
89101	1	1647	.1	612	120	.2	6598	2.1	33	640	2.2	2152	.2	2015	160	.2
89101	2	1739	.1	744	140	.1	3992	1.0	53	300	1.1	1562	.2	2152	110	.2
89102	1	1351	.1	1443	120	.2	5603	1.4	61	550	1.5	1223	.1	2491	90	.2
89102	2	1413	.3	1636	110	.3	1572	1.2	54	120	1.3	2024	.4	2491	160	.4
89201	1	342	.0	638	30	.0	186	.1	24	20	.1	241	.1	480	20	.1
89401	1	186	.2	383	20	.2	149	.0	21	10	.1	171	.1	613	20	.1
89501	1	262	.2	413	20	.2	874	.6	24	60	.6	489	.1	528	30	.1
89601	1	528	.2	605	20	.3	339	.2	64	20	.2	424	.2	1074	20	.2

TABLE 5.11-5 FOUR MODE TEST RESULTS

	----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
	----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
01001 1	1673	1.7	21	100	1.7	541	.0	131	40	.1	1299	1.1	16	90	1.2					
01001 2	388	.0	21	40	.0	265	.0	136	30	.0	275	.0	26	40	.0					
01002 1	149	.0	54	20	.0	79	.0	328	20	.0	97	.0	54	20	.0					
01002 2	1055	.6	4	80	.7	345	.0	258	40	.0	1036	.5	4	90	.5					
01101 1	470	.0	21	60	.0	296	.0	124	40	.0	250	.0	21	40	.0					
01102 1	253	.0	39	40	.0	33	.0	401	10	.0	272	.0	49	40	.0	152	.0	66	30	.0
01103 1	200	.0	53	30	.0	47	.0	108	10	.0	172	.0	53	20	.0					
01104 1	314	.0	94	50	.0	140	.0	106	30	.0	223	.0	49	50	.0					
01201 1	191	.0	68	50	.0	99	.0	325	40	.0	160	.0	63	40	.0	117	.0	71	40	.0
01202 1	161	.0	51	40	.0	67	.0	333	40	.0	140	.0	69	50	.0	115	.0	89	50	.0
01301 1	451	.0	48	60	.0	1461	2.5	98	90	2.8	448	.0	58	70	.1	304	.0	68	40	.0
01302 1	614	.0	41	60	.0	2260	3.1	86	130	3.6	415	.0	46	30	.0	314	.0	54	40	.0
01303 1	525	.0	41	60	.0	1566	1.5	64	100	1.6	376	.0	51	50	.0	268	.0	61	40	.0
01304 1	369	.0	54	50	.0	155	.0	189	20	.0	192	.0	54	30	.0	112	.0	104	20	.0
01305 1	232	.0	54	40	.0	70	.0	116	20	.0	149	.0	94	40	.0	149	.0	146	40	.0
01306 1	213	.0	31	40	.0	60	.0	176	20	.0	125	.0	41	30	.0	91	.0	46	30	.0
01307 1	97	.0	52	20	.0	33	.0	147	20	.0	103	.0	72	30	.0					
01308 1	792	.0	52	100	.0	330	.0	228	40	.0	253	.0	70	50	.0	201	.0	145	40	.0
01309 1	290	.1	52	40	.1	125	.1	220	30	.1	302	.1	52	50	.1	626	.3	97	70	.3
01401 1	587	.0	26	60	.0	403	.0	166	50	.0	320	.0	31	40	.0					
01402 1	1311	.0	31	110	.0	855	.0	46	100	.0	680	.0	28	80	.0					
01403 1	409	.0	21	70	.0	327	.0	51	70	.0	299	.0	16	60	.0					
01404 1	333	.0	29	40	.0	201	.0	74	40	.0	290	.0	21	50	.0					
01405 1	311	.0	25	60	.0	204	.0	131	50	.0	131	.0	46	40	.0	109	.0	61	40	.0
01406 1	5031	.1	65	580	.1	694	.0	152	100	.0	553	.0	92	90	.0	339	.0	240	70	.0
01407 1	119	.0	52	20	.0	109	.0	117	20	.0	70	.0	70	20	.0	67	.0	142	20	.0
01501 1	7771	2.5	36	600	2.6	540	.0	128	70	.0	739	.0	43	80	.0					
01502 1	4339	3.1	19	300	3.0	547	.0	81	60	.0	473	.0	26	40	.0	253	.0	34	20	.0
01503 1	975	.0	11	90	.0	761	.0	111	100	.0	587	.0	29	80	.0					

TABLE 5.11-5 FOUR MODE TEST RESULTS (CONT'D)

EPA NO	S	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	------2500 RPM------- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE NEUTRAL---- ----LAB---- HC	CO	NOX	GARAGE HC	CO	----IDLE IN GEAR--- ----LAB---- HC	CO	NOX	GARAGE HC	CO
01601	1	6552	3.9	43	360	3.8	752	.0	85	70	.0	476	.0	93	50	.0	525	.0	210	50	.0
01602	1	415	.0	39	40	.0	115	.0	136	20	.0	210	.0	36	40	.0					
01603	1	1266	.0	56	160	.0	997	.0	121	120	.0	590	.0	79	80	.0	516	.0	164	60	.0
01604	1	577	.0	47	100	.0	140	.0	55	40	.0	112	.0	22	40	.1	82	.0	27	40	.1
01701	1	1702	.0	103	180	.0	965	.0	135	110	.0	732	.0	123	80	.0	628	.0	320	80	.0
01702	1	975	.0	99	150	.0	424	.0	126	60	.0	308	.0	111	60	.0	137	.0	266	30	.0
01703	1	1801	1.9	46	100	1.9	308	.0	119	50	.0	128	.0	71	40	.0	1633	2.7	46	140	2.6
01704	1	308	.0	72	80	.0	262	.0	117	80	.0	45	.0	67	40	.0	57	.0	190	40	.0
02001	1	301	.2	36	60	.2	145	.2	150	40	.3	307	.2	33	60	.2					
02101	1	1167	.9	23	110	1.0	448	.0	180	60	.0	371	.0	23	60	.1					
02101	2	784	.0	41	80	.0	506	.0	223	60	.0	488	.0	66	60	.0					
02201	1	1136	.6	33	110	.6	656	.2	108	80	.2	696	.5	38	80	.6					
68001	1	1029	.3	56	90	.3	527	.2	195	60	.2	668	.2	58	70	.2					
68001	2	1179	.2	41	80	.2	717	.3	283	80	.3	864	.3	51	80	.4					
68001	3	1326	.9	28	110	1.0	622	.3	253	60	.4	928	.2	46	80	.2					
68102	1	2070	2.5	41	110	2.4	394	.2	256	30	.2	1847	1.9	41	110	2.0					
68102	2	1679	1.2	46	110	1.3	241	.1	296	40	.1	2199	.9	49	180	1.0					
68201	1	1286	.0	28	180	.0	325	.0	130	50	.1	638	.0	46	100	.0	368	.0	56	60	.0
68202	1	4413	.1	33	440	.1	1148	.2	477	100	.2	2307	.1	41	200	.1	2057	.1	46	180	.1
68203	1	2051	1.5	71	140	1.6	735	.1	342	100	.1	1880	1.6	73	130	1.7	2100	1.5	101	160	1.7
68204	1	2014	.4	71	190	.4	2495	2.0	218	100	2.1	1142	.5	73	90	.7	3190	.3	160	300	.3
68205	1	3972	1.4	33	300	1.5	1629	.6	203	110	.7	2381	1.3	46	160	1.5					
68206	1	1647	.8	76	140	.8	937	.3	499	90	.3	1702	.9	71	140	1.0	1984	.8	103	160	.9
68207	1	2529	.6	61	160	.6	2759	1.4	196	150	1.4	2661	1.6	46	170	1.8	2499	.9	61	180	1.1
68207	2	914	.1	49	60	.1	1379	.8	401	80	.8	1336	.4	54	100	.5	1608	.2	76	140	.2
68208	1	7621	6.5	53	280	6.5	638	.1	402	50	.2	7671	6.5	56	310	6.4	5556	6.6	56	350	6.6
68208	2	1204	.3	71	90	.3	515	.1	450	60	.1	1405	.5	71	120	.6	1794	.4	108	140	.4

TABLE 5.11-5 FOUR MODE TEST RESULTS (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
68209	1	1592	.0	63	180	.0	852	.0	208	100	.1	760	.0	81	100	.0	680	.0	188	100	.0
68210	1	1213	.7	78	60	.8	362	.1	327	30	.2	1301	.8	81	60	.9	1779	.5	148	100	.4
68211	1	516	.2	131	30	.2	247	.1	478	20	.1	461	.2	119	40	.2	1195	.1	453	90	.1
68211	2	1153	.3	78	100	.3	486	.1	545	70	.1	1098	.3	74	100	.4	1403	.2	149	140	.1
68301	1	1994	2.3	51	100	2.2	516	.1	151	40	.1	1960	2.3	41	110	2.2					
68301	2	186	.1	14	20	.1	106	.0	61	10	.0	171	.1	9	20	.1					
68401	1	280	.1	98	30	.1	332	.1	447	40	.2	310	.1	88	40	.1	414	.1	160	40	.1
68402	1	2244	.7	96	150	.8	1770	.5	307	110	.7	1938	.7	93	140	.8	2586	.5	178	200	.6
68403	1	1397	.2	79	120	.2	1296	.3	221	100	.3	984	.1	79	80	.1	1725	.1	164	130	.1
68501	1	1580	1.2	51	80	1.2	154	.1	86	20	.1	1708	1.5	61	90	1.6					
68501	2	1311	.1	51	100	.1	659	.1	78	80	.1	1005	.1	61	100	.1					
68502	1	1771	1.0	26	100	1.0	1036	.0	86	100	.0	342	.0	36	40	.0					
68601	1	2704	.5	61	220	.5	403	.0	293	40	.0	486	.0	69	70	.0	2636	1.0	71	210	.9
68601	2	2351	.6	53	180	.6	717	.0	158	80	.0	708	.0	53	100	.0	803	.0	83	100	.0
68601	3	5826	.6	56	560	.6	1320	.0	305	130	.1	1730	.0	83	220	.0	3781	1.9	78	330	1.8
68602	1	4861	3.6	41	260	3.5	648	.1	196	70	.1	700	.1	94	80	.1	1679	.4	146	160	.4
68701	1	1740	.3	51	210	.2	706	.1	231	80	.1	1648	.4	46	220	.4	1566	.3	64	160	.3
68702	1	5422	.4	54	520	.4	926	.1	423	80	.1	3698	.6	54	300	.6	2168	.5	76	200	.6
68703	1	8008	.1	41	900	.2	1092	.1	189	120	.1	6154	.1	44	600	.1					
68703	2	3728	.8	66	300	.8	1373	.2	338	130	.2	3197	1.1	54	240	1.2					
68704	1	5071	.3	74	520	.3	828	.1	388	80	.1	3798	.4	71	400	.4	2114	.5	116	210	.5
68801	1	3761	2.8	53	240	2.8	5866	3.2	218	350	3.0	3731	3.5	61	220	3.4	3851	3.1	56	270	3.1
68801	2	2638	.3	53	260	.3	4192	2.3	190	180	2.5	2448	.7	63	160	.8	2688	.7	76	200	.7
68802	1	1719	1.3	46	100	1.3	1101	.9	216	60	.9	1960	1.8	49	110	1.7	1939	1.9	46	140	1.8
68802	2	1780	.7	51	120	.7	1709	.8	206	100	.8	1590	.6	59	100	.5	1832	.6	66	130	.6

TABLE 5.11-5 FOUR MODE TEST RESULTS (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
68803	1	9999	.1	41	500	.1	9999	2.1	121	1040	2.0	9999	.1	64	520	.1	9999	.1	64	300	.1
68804	1	2082	1.6	58	150	1.6	1693	1.4	253	100	1.4	2534	2.2	71	200	2.5	2807	2.1	78	250	2.0
68901	1	9999	9.3	33	650	9.3	6378	5.7	123	200	5.5	9999	9.3	36	560	9.0	9999	9.5	36	500	9.3
68901	2	9999	.1	28	1810	.1	7531	3.5	180	300	3.4	9999	.1	53	1450	.2	9999	.1	58	1200	.1
68901	3	2320	.5	76	160	.5	8102	4.5	230	250	4.0	2314	.6	83	150	.8	2605	.4	238	200	.3
69301	1	492	.6	26	40	.7	235	.2	74	40	.2	400	.5	26	40	.6	372	.6	24	40	.6
69302	1	546	.6	41	90	.7	240	.1	130	80	.1	399	.5	36	100	.6					
69401	1	145	.2	28	30	.2	75	.2	43	40	.2	185	.2	28	40	.2					
69501	1	613	.4	36	60	.4	359	.2	118	40	.2	439	.3	43	60	.4					
69501	2	943	.4	48	100	.4	494	.1	121	60	.2	586	.4	46	80	.4					
88001	1	882	.1	41	90	.1	500	.1	253	70	.1	457	.1	48	60	.1					
88002	1	730	.4	52	90	.4	314	.1	390	60	.1	467	.4	47	80	.4					
88101	1	5836	3.7	21	360	3.6	913	.0	220	60	.0	5425	3.9	28	320	3.8					
88101	2	277	.0	61	50	.0	65	.0	208	30	.0	249	.0	53	50	.0					
88102	1	2168	.3	19	220	.3	1734	.8	94	130	.8	2566	.6	16	250	.6					
88102	2	311	.0	46	20	.0	1388	.9	89	70	1.0	363	.1	4	40	.1					
88102	3	394	.0	51	70	.0	125	.0	146	40	.0	431	.0	46	80	.0					
88201	1	399	.0	53	60	.0	264	.0	123	40	.0	258	.0	11	70	.0	515	.1	21	140	.2
88201	2	307	.0	86	60	.0	151	.0	133	40	.0	240	.0	103	40	.0	209	.0	327	40	.0
88202	1	1618	.0	51	140	.0	929	.0	186	120	.0	920	.0	61	110	.0	678	.0	196	80	.0
88203	1	4019	1.3	45	300	1.3	920	.0	330	90	.0	3798	1.7	47	280	1.7	3989	1.6	70	340	1.5
88203	2	1587	.0	75	130	.1	210	.0	228	40	.0	1566	.3	65	120	.3	2229	.1	147	210	.0
88301	1	2811	2.2	29	160	2.2	394	.0	176	40	.1	2719	2.6	31	170	2.6	2474	2.9	36	180	2.7
88301	2	333	.0	34	30	.0	189	.0	101	20	.0	241	.0	51	30	.0	213	.0	91	30	.0
88301	3	1302	.0	29	120	.0	779	.0	151	70	.0	1312	.0	14	170	.0	877	.0	14	80	.1

TABLE 5.11-5 FOUR MODE TEST RESULTS (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
88302	1	3227	.8	26	260	.8	862	.0	126	110	.0	2635	.9	21	220	1.0					
88302	2	229	.0	41	40	.0	76	.0	134	20	.0	259	.0	29	50	.0					
88302	3	614	.0	36	60	.0	299	.0	154	50	.0	522	.0	21	100	.1					
88303	1	5723	2.4	24	370	2.5	2545	.0	154	270	.1	5282	3.3	29	350	3.4	3918	2.9	41	310	2.8
88303	2	993	.0	64	100	.0	1107	.0	154	150	.0	507	.0	71	70	.0	458	.0	206	70	.0
88303	3	486	.0	66	40	.0	639	.0	141	90	.0	1107	.1	19	120	.1	302	.0	156	40	.0
88304	1	1908	.8	51	150	.8	473	.1	358	60	.1	1244	.5	66	120	.5	1709	.5	96	140	.5
88305	1	792	.0	36	80	.0	568	.0	226	60	.0	584	.0	46	60	.0	415	.0	54	50	.0
88305	2	996	.0	86	110	.0	699	.0	165	90	.0	610	.0	93	90	.0	521	.0	230	80	.0
88306	1	9999	.1	24	1260	.1	2284	.1	214	220	.1	9612	.1	26	1080	.1					
88307	1	914	.0	41	100	.0	620	.0	151	70	.0	473	.0	49	60	.0	369	.0	89	50	.0
88501	1	4460	4.5	24	200	4.4	2014	1.2	535	100	1.3	5873	4.9	24	280	4.6	5171	5.1	19	280	4.7
88501	2	883	.3	74	50	.3	1715	1.0	553	90	1.1	1027	.4	69	60	.4	1088	.4	89	70	.4
88501	3	1991	1.5	51	140	1.5	1477	.5	545	120	.6	1455	.6	54	120	.6	1507	.8	54	130	.8
88601	1	2642	.1	73	250	.1	1005	.1	385	100	.2	1714	.1	78	180	.2	1892	.1	103	170	.1
88602	1	688	.3	34	50	.2	467	.1	253	40	.2	577	.3	36	50	.3					
88701	1	2618	2.1	48	180	2.2	821	.2	352	80	.2	1975	2.0	46	160	2.2	1574	1.3	43	130	1.4
88702	1	1201	1.3	70	60	1.3	562	.1	361	40	.2	1318	1.2	49	80	1.2	1373	1.2	51	80	1.2
88801	1	1994	.4	46	140	.4	639	.1	84	60	.1	1495	.6	46	130	.7					
88802	1	1963	2.2	39	110	2.2	440	.1	256	40	.2	2239	2.5	41	130	2.5	2101	2.6	39	160	2.5
88802	2	1494	.5	96	60	.4	353	.1	320	0	.1	1464	.8	81	60	.9	1669	.5	160	80	.6
88901	1	2969	1.3	58	240	1.4	374	.0	215	50	.0	2733	1.6	53	180	1.7	3510	1.7	66	300	1.7
88901	2	693	.0	63	100	.0	136	.0	223	20	.0	353	.0	78	50	.0	215	.0	106	40	.0
88901	3	570	.0	108	110	.0	127	.0	210	40	.0	393	.0	98	90	.0	148	.0	228	50	.0
88902	1	3160	1.0	91	230	1.0	943	.0	432	80	.0	2204	.9	73	170	1.0					
88902	2	565	.0	91	100	.0	137	.0	303	30	.0	354	.0	81	80	.0					
88902	3	969	.0	64	100	.0	446	.0	446	60	.0	475	.0	68	60	.0					

TABLE 5.11-5 FOUR MODE TEST RESULTS (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
89001	1	2652	1.6	61	180	1.7	703	.2	485	60	.2	2389	2.0	41	160	2.0	2523	2.5	31	200	2.5
89001	2	1433	1.3	81	120	1.6	852	.4	432	70	.6	1256	.8	68	110	.9	1617	.9	78	130	.9
89002	1	3270	1.4	33	230	1.4	1617	.4	347	100	.4	1984	.9	46	140	1.0					
89002	2	1494	.1	53	120	.2	1066	.4	302	90	.6	1066	.3	68	90	.4					
89002	3	5425	.1	38	540	.1	1366	.2	437	140	.2	3190	.3	63	300	.3					
89003	1	922	.6	63	80	.4	778	.3	569	60	.4	980	.7	71	80	.8	1259	.3	111	110	.4
89004	1	2144	1.4	56	140	1.5	1994	.3	416	300	.4	1715	1.6	51	120	1.6					
89101	1	8503	2.1	33	820	2.2	1286	.2	317	140	.2	5796	2.3	33	540	2.4	4192	2.2	28	410	2.3
89101	2	4292	.8	53	420	.9	1345	.1	375	160	.2	3641	.9	53	360	1.0	2388	1.0	53	200	.9
89102	1	7106	1.2	71	680	1.2	853	.1	570	90	.2	5753	1.4	59	600	1.4	3517	1.4	54	350	1.4
89102	2	1908	.9	64	120	1.0	957	.3	625	80	.3	1663	1.3	51	120	1.4	1908	1.3	74	140	1.3
89201	1	189	.1	26	20	.1	152	.0	141	20	.1	174	.1	24	20	.1					
89401	1	210	.0	11	20	.0	143	.1	121	20	.1	204	.0	14	30	.0					
89501	1	1000	.7	21	60	.8	403	.2	79	20	.2	700	.6	26	40	.6					
89601	1	428	.2	44	20	.2	189	.2	111	10	.2	342	.2	46	20	.2					

TABLE 5.11-6 FOUR MODE TEST - SPARK PLUG DISABLED

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
01001	1	6785	.1	24	860	.3	8359	.0	151	1000	.1	2055	.0	26	360	.0					
01001	2	1969	.0	29	250	.0	6836	.0	146	820	.0	1945	.0	31	240	.0					
01002	1	3768	.0	44	540	.0	9612	.0	356	1160	.0	2495	.0	54	280	.0					
01002	2	244	.0	11	20	.0	5803	.1	214	680	.0	1042	.1	14	140	.1					
01101	1	149	.0	9	30	.0	837	.0	121	150	.0	91	.0	16	20	.0					
01102	1	721	.0	46	110	.0	1312	.0	503	200	.0	207	.0	51	30	.0	152	.0	109	20	.0
01103	1	2228	.0	36	350	.0	3460	.0	133	580	.0	1008	.0	53	160	.0					
01104	1	945	.0	49	160	.0	1348	.0	101	220	.0	253	.0	64	60	.0					
01201	1	243	.0	51	60	.0	668	.0	327	160	.0	84	.0	83	40	.0	59	.0	113	30	.0
01202	1	336	.0	41	70	.0	1556	.0	406	270	.0	158	.0	69	50	.0	128	.0	71	40	.0
01301	1	806	.0	33	120	.0	1081	.0	53	150	.1	295	.0	61	40	.0	212	.0	71	30	.0
01302	1	639	.0	21	120	.0	587	.4	69	100	.4	137	.0	49	20	.0	97	.0	54	20	.0
01303	1	327	.0	39	40	.0	1593	.0	121	300	.1	180	.0	54	20	.0	155	.0	61	20	.0
01304	1	883	.0	46	140	.0	2636	.0	196	380	.0	535	.0	74	80	.0	476	.0	166	70	.0
01305	1	3076	.0	54	460	.0	6635	.1	171	800	.1	2174	.0	124	340	.0	1533	.0	206	340	.0
01306	1	678	.0	24	110	.0	2627	.0	201	400	.0	431	.0	41	80	.0	327	.0	46	60	.0
01307	1	275	.0	47	40	.0	752	.0	200	140	.0	115	.0	67	20	.0					
01308	1	1358	.0	47	210	.0	2806	.0	200	430	.0	458	.0	70	100	.0	342	.0	155	80	.0
01309	1	8349	.1	47	960	.1	9552	.1	215	1080	.1	9121	.1	50	1040	.1	9999	.2	115	1200	.2
01401	1	718	.0	21	110	.0	978	.0	189	140	.0	584	.0	36	80	.0					
01402	1	748	.0	21	110	.0	1298	.0	68	170	.0	818	.0	31	110	.0					
01403	1	385	.0	11	80	.0	1385	.0	91	190	.0	385	.0	16	70	.0					
01404	1	614	.0	19	80	.0	1480	.0	151	190	.0	559	.0	24	80	.0					
01405	1	587	.0	21	100	.0	1774	.0	126	220	.0	504	.0	41	80	.0	464	.0	49	80	.0
01406	1	651	.0	55	110	.0	1459	.0	155	180	.0	440	.0	90	80	.0	357	.0	298	80	.0
01407	1	449	.0	47	90	.0	997	.0	125	130	.0	272	.0	77	50	.0	272	.0	178	40	.0
01501	1	9999	.5	23	1370	.5	2115	.0	143	330	.0	460	.0	46	50	.0					
01502	1	4931	.1	0	630	.1	1128	.0	89	250	.0	265	.0	21	20	.0	131	.0	36	10	.0
01503	1	143	.0	0	20	.0	1581	.0	94	260	.0	327	.0	29	40	.0					

TABLE 5.11-6 FOUR MODE TEST - SPARK PLUG DISABLED (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
01601	1	9999	.6	20	1600	.6	2046	.0	178	260	.0	1336	.0	105	170	.0	914	.0	290	110	.0
01602	1	547	.0	29	80	.0	1526	.0	126	220	.0	342	.0	41	50	.0					
01603	1	541	.0	71	110	.0	1140	.0	116	190	.0	137	.0	76	20	.0	112	.0	154	20	.0
01604	1	1348	.0	47	260	.0	1312	.0	67	220	.0	109	.0	47	40	.0	446	.2	40	100	.1
01701	1	325	.0	106	60	.0	1158	.0	145	180	.0	176	.0	108	40	.0	172	.0	367	40	.0
01702	1	1924	.0	91	340	.0	2695	.0	126	500	.0	290	.0	104	60	.0	235	.0	361	50	.0
01703	1	9999	2.2	44	1420	2.1	2675	.0	121	360	.0	715	.0	51	110	.0	6465	2.5	31	720	2.4
01704	1	636	.0	72	130	.0	2229	.0	100	340	.0	449	.0	72	100	.0	382	.0	223	90	.0
02001	1	9999	.7	18	1900	.7	9999	.4	203	1980	.6	9999	.8	28	2000	.8					
02101	1	240	.0	36	60	.0	925	.0	250	160	.0	393	.0	43	100	.1					
02101	2	530	.0	46	80	.0	1323	.0	584	220	.0	234	.0	63	40	.0					
02201	1	9999	.7	28	1680	.7	9999	.2	198	1820	.2	9999	.6	36	1850	.6					
68001	1	9999	.2	53	1640	.2	9999	.4	78	1780	.5	9999	.1	56	1700	.2					
68001	2	9999	.1	33	1440	.1	9999	.3	155	1900	.4	9999	.1	48	1580	.1					
68001	3	9999	1.5	18	1580	1.5	9999	.7	61	2000	.8	9999	.2	43	1640	.2					
68102	1	9999	2.0	39	1780	2.0	9999	.2	199	1760	.2	9999	2.1	46	1900	2.0					
68102	2	9999	1.0	39	1740	1.0	9999	.1	241	1800	.1	9999	1.1	49	1960	1.0					
68201	1	2687	.0	31	400	.0	7881	.0	180	1000	.1	2388	.0	48	380	.0	2326	.0	76	360	.0
68202	1	9999	.1	23	1260	.1	9999	.1	577	1580	.2	9999	.1	41	1500	.1	9999	.1	36	1360	.1
68203	1	9999	1.1	56	1500	1.2	9999	.1	407	1480	.1	9999	1.2	71	1620	1.3	9999	1.2	116	1700	1.3
68204	1	9999	.4	71	1300	.6	9999	1.0	307	1780	1.2	9999	.4	81	1440	.5	9999	.2	175	1560	.3
68205	1	9999	.7	33	1400	.8	9999	.3	218	1520	.4	9999	1.1	46	1520	1.2					
68206	1	9999	.7	53	1230	.8	9999	.2	602	1740	.2	9999	1.0	68	1380	1.2	9999	.8	93	1340	.8
68207	1	9999	.4	51	1360	.6	9999	1.2	241	1620	.9	9999	1.1	54	1520	1.4	9999	.7	71	1480	.9
68207	2	9999	.1	26	1200	.1	9999	.3	565	1520	.3	9999	.3	71	1450	.3	9999	.2	76	1380	.2
68208	1	9999	5.2	36	2000	5.0	9999	.2	477	1500	.3	9999	5.1	66	2000	4.7	9999	5.2	53	2000	5.0
68208	2	9999	.3	46	1520	.3	9999	.1	422	1540	.1	9999	.4	61	1620	.5	9999	.3	103	1660	.4

TABLE 5.11-6 FOUR MODE TEST - SPARK PLUG DISABLED (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
68209	1	3290	.0	56	450	.0	7330	.0	253	940	.1	3270	.0	86	430	.1	2541	.0	243	350	.0
68210	1	9999	.5	58	1340	.5	9999	.2	427	1380	.2	9999	.7	76	1400	.8	9999	.3	163	1540	.3
68211	1	9999	.2	104	1320	.1	9999	.2	665	1250	.1	9999	.3	119	1400	.3	9999	.1	363	1540	.1
68211	2	9999	.2	66	1260	.2	9999	.2	593	1280	.2	9999	.4	79	1400	.4	9999	.2	171	1540	.2
68301	1	9999	1.9	41	1450	1.8	9999	.1	171	1630	.1	9999	1.9	44	1600	1.8					
68301	2	1578	.0	4	160	.1	4831	.0	199	560	.1	1862	.0	9	220	.1					
68401	1	6007	.1	78	870	.1	9515	.3	569	1200	.4	5696	.1	83	840	.1	5616	.1	165	800	.1
68402	1	9999	.5	61	1170	.6	9999	.4	320	1300	.6	9999	.4	81	1170	.4	9999	.3	200	1570	.4
68403	1	9999	.2	76	1140	.2	9999	.3	423	1380	.4	9999	.1	94	1240	.2	9999	.1	146	1380	.1
68501	1	9999	.7	38	1900	.8	9999	.1	73	1550	.2	9999	.9	53	2000	1.0					
68501	2	9999	.1	38	1520	.1	9999	.1	56	1420	.1	9999	.1	56	1600	.1					
68502	1	6535	.0	4	920	.0	6244	.0	76	810	.0	3678	.0	46	500	.0					
68601	1	9999	.4	46	1310	.4	7507	.0	291	940	.1	4680	.0	76	620	.0	5352	.1	64	540	.1
68601	2	4924	.0	38	670	.0	6458	.0	145	840	.1	4413	.0	48	600	.0	5295	.0	86	760	.0
68601	3	6849	.2	43	930	.2	6027	.0	382	800	.1	3761	.0	81	520	.0	9505	.7	53	1240	.9
68602	1	9999	1.9	44	1720	2.0	9552	.1	189	1120	.1	8069	.1	96	980	.1	9999	.3	129	1280	.3
68701	1	9999	.2	29	1240	.2	9999	.1	204	1380	.1	9999	.3	46	1240	.3	9999	.2	66	1340	.2
68702	1	9999	.3	39	1380	.3	9999	.1	533	1620	.2	9999	.6	76	1440	.5	9999	.5	81	1480	.6
68703	1	9999	.1	26	1600	.1	9999	.1	181	1380	.2	9999	.1	44	1500	.1					
68703	2	9999	.7	44	1240	.8	9999	.2	261	1420	.2	9999	1.1	59	1420	1.1					
68704	1	9999	.2	54	1780	.2	9999	.1	411	1720	.1	9999	.3	76	1680	.2	9999	.2	131	1940	.2
68801	1	9999	2.3	43	1580	2.4	9999	2.3	245	1850	2.2	9999	3.0	68	1840	3.1	9999	2.6	53	1740	2.6
68801	2	9999	.3	48	1320	.4	9999	2.3	215	1560	2.3	9999	.8	63	1500	1.0	9999	.6	66	1540	.6
68802	1	9999	1.6	46	1360	1.6	9999	.8	179	1460	.8	9999	1.6	54	1500	1.5	9999	1.6	54	1560	1.5
68802	2	9999	.6	54	1230	.6	9999	.8	126	1470	.8	9999	.5	66	1420	.6	9999	.4	86	1370	.6

TABLE 5.11-6 FOUR MODE TEST - SPARK PLUG DISABLED (CONT'D)

		----IDLE NEUTRAL----					-------2500 RPM--------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
68803	1	9999	.1	21	1370	.1	9999	1.6	96	2000	1.7	9999	.1	39	1500	.1	9999	.1	29	1600	.1
68804	1	9999	1.3	51	1640	1.4	9999	1.0	265	1720	1.2	9999	1.9	66	1700	2.0	9999	1.6	61	1720	1.6
68901	1	9999	8.9	23	2000	8.8	9999	4.8	96	1840	4.8	9999	8.8	36	2000	8.5	9999	8.3	28	2000	8.2
68901	2	9999	.1	36	2000	.1	9999	2.2	188	1500	2.2	9999	.2	58	1800	.2	9999	.1	71	1700	.1
68901	3	9999	.2	91	1240	.2	9999	3.7	322	1740	3.8	9999	.3	96	1350	.4	9999	.2	317	1530	.2
69301	1	9999	.9	21	1920	1.0	9999	.2	121	1940	.2	9999	.9	36	2000	1.0					
69302	1	9999	1.0	21	2000	1.2	9999	.2	178	1880	.3	9999	.9	31	2000	1.0					
69401	1	8653	.5	16	880	.5	9999	.5	36	1180	.7	8593	.4	26	900	.5					
69501	1	9999	.5	31	1680	.5	9999	.1	170	1800	.2	9999	.4	33	1840	.4					
69501	2	9999	.9	28	1500	1.0	9999	.2	223	1860	.2	9999	.7	33	1700	.7					
88001	1	9999	.1	18	1780	.1	9999	.1	128	1900	.1	9999	.1	28	1960	.1					
88002	1	9999	.3	32	1740	.3	9999	.1	323	1900	.1	9999	.3	47	1960	.3					
88101	1	9999	1.9	16	2000	2.1	9999	.0	228	1170	.1	9999	1.7	26	2000	1.8					
88101	2	414	.0	46	80	.0	1711	.0	218	260	.0	286	.0	26	60	.0					
88102	1	4299	.0	2	560	.1	9111	.1	149	1040	.2	5713	.2	14	710	.2					
88102	2	2260	.0	41	300	.0	8470	.1	181	960	.1	2545	.0	46	330	.0					
88102	3	2095	.0	31	300	.0	7487	.0	174	860	.0	2376	.0	46	320	.0					
88201	1	748	.0	36	120	.0	2919	.0	185	420	.0	1274	.0	23	200	.0	2381	.1	38	340	.1
88201	2	1409	.0	76	220	.0	3049	.0	178	460	.0	867	.0	118	140	.0	824	.0	372	140	.0
88202	1	1719	.0	64	200	.0	2756	.0	169	380	.0	1367	.0	71	200	.0	1269	.0	241	180	.0
88203	1	9999	.0	45	1420	.0	9211	.0	293	1180	.0	9999	.0	62	1540	.0	9999	.0	130	1480	.0
88203	2	9011	.0	55	1180	.0	8911	.0	240	1160	.0	8309	.0	77	1140	.0	7638	.0	203	1080	.0
88301	1	9999	.5	21	1220	.5	4179	.0	176	550	.0	9999	1.4	21	1250	1.5	9999	1.3	26	1320	1.1
88301	2	657	.0	39	90	.0	2750	.0	131	400	.0	449	.0	49	70	.0	372	.0	94	60	.0
88301	3	837	.0	26	110	.0	3818	.0	196	490	.0	2083	.0	16	300	.0	1899	.0	24	250	.0

TABLE 5.11-6 FOUR MODE TEST - SPARK PLUG DISABLED (CONT'D)

	----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
	----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
88302 1	7738	.1	0	960	.1	4600	.0	121	680	.0	6535	.2	11	800	.2					
88302 2	1786	.0	26	250	.0	6334	.0	134	800	.0	2776	.0	39	360	.0					
88302 3	522	.0	26	70	.0	2996	.0	186	400	.0	951	.0	16	160	.1					
88303 1	9999	.1	36	1340	.1	6725	.0	171	880	.0	9999	.7	21	1440	.6	9999	.4	51	480	.3
88303 2	1128	.0	71	180	.0	3558	.0	154	540	.0	639	.0	94	110	.0	620	.0	288	100	.0
88303 3	837	.0	71	110	.0	3147	.0	126	460	.0	525	.0	56	100	.0	486	.0	261	70	.0
88304 1	9999	.6	46	1400	.6	9999	.1	308	1260	.1	9999	.5	74	1450	.5	9999	.6	99	1580	.6
88305 1	400	.0	26	50	.0	2083	.0	126	40	.0	296	.0	31	40	.0	250	.0	76	40	.0
88305 2	1148	.0	81	160	.0	2397	.0	153	400	.0	659	.0	83	120	.0	638	.0	265	100	.0
88306 1	9999	.1	14	1780	.1	9999	.1	199	1340	.1	9999	.1	24	1560	.1					
88307 1	461	.0	29	70	.0	2404	.0	136	350	.0	415	.0	46	70	.0	369	.0	111	60	.0
88501 1	9999	3.9	24	1750	3.6	9999	.9	737	2000	.8	9999	4.2	31	2000	4.0	9999	3.9	21	2000	3.7
88501 2	9999	.4	46	1500	.4	9999	1.2	757	2000	1.2	9999	.6	74	1780	.7	9999	.5	71	1700	.5
88501 3	9999	1.4	41	1500	1.4	9999	.4	837	1880	.6	9999	.6	51	1620	.6	9999	.7	51	1580	.7
88601 1	9999	.1	53	1480	.1	9999	.1	402	1480	.1	9999	.1	78	1570	.1	9999	.1	83	1470	.1
88602 1	7056	.2	26	800	.2	9999	.1	276	1300	.2	8079	.2	41	910	.2					
88701 1	9999	2.0	31	1400	2.0	9999	.2	395	1490	.2	9999	1.8	46	1450	2.0	9999	1.3	36	1280	1.4
88702 1	9999	1.0	46	1450	1.0	9999	.1	411	1520	.2	9999	1.0	56	1580	1.0	9999	.9	64	1660	1.0
88801 1	9999	.3	29	1400	.3	9999	.1	66	1540	.1	9999	.3	46	1480	.4					
88802 1	9999	1.5	31	1740	1.5	9999	.1	166	1620	.1	9999	1.8	49	1820	1.7	9999	3.1	36	1820	3.0
88802 2	9999	.3	61	1700	.3	9999	.1	228	1530	.1	9999	.6	83	1900	.7	9999	.7	135	1900	.9
88901 1	9999	.4	28	1460	.5	7972	.0	447	1000	.0	8723	.4	33	1140	.4	6578	.4	41	850	.4
88901 2	1158	.0	46	180	.0	2388	.0	215	340	.0	313	.0	73	50	.0	246	.0	103	40	.0
88901 3	778	.0	81	160	.0	1139	.0	183	200	.0	335	.0	96	70	.0	298	.0	285	60	.0
88902 1	9999	.8	48	1500	.9	9999	.1	597	1500	.2	5365	.2	53	650	.2					
88902 2	1382	.0	71	240	.0	2254	.0	333	320	.0	587	.0	76	100	.0					
88902 3	1104	.0	46	170	.0	2190	.0	570	320	.0	415	.0	61	60	.0					

TABLE 5.11-6 FOUR MODE TEST - SPARK PLUG DISABLED (CONT'D)

		----IDLE NEUTRAL----					------2500 RPM-------					----IDLE NEUTRAL----					----IDLE IN GEAR---				
		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE		----LAB----			GARAGE	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
89001	1	9999	1.4	29	1490	1.4	9999	.2	466	1500	.2	9999	1.8	46	1550	1.9	9999	2.3	39	1620	2.2
89001	2	9999	.8	41	1700	.9	9999	.4	547	1700	.5	9999	.5	61	1710	.7	9999	.7	63	1880	.9
89002	1	9999	.3	28	1580	.4	9999	.4	432	1580	.4	9999	.4	46	1520	.5					
89002	2	9999	4.8	21	1840	4.7	9999	.4	248	1470	.5	9999	.5	68	1570	.6					
89002	3	9999	.1	23	1500	.1	9999	.2	352	1410	.3	9999	.2	48	1500	.2					
89003	1	9999	.3	46	1600	.3	9999	.3	826	1620	.4	9999	.4	61	1700	.6	9999	.1	106	1880	.1
89004	1	9999	1.0	46	1570	1.0	9999	.3	466	1640	.3	9999	1.2	66	1670	1.2					
89101	1	9999	1.4	16	2000	1.5	9999	.2	278	1580	.2	9999	1.5	38	1960	1.6	9999	1.4	26	1760	1.4
89101	2	9999	.6	31	1620	.7	9999	.2	407	1580	.2	9999	.7	53	1660	.8	9999	.8	51	1740	.7
89102	1	9999	.9	41	1750	1.0	9999	.2	703	1520	.2	9999	1.2	64	1800	1.2	9999	1.2	71	1700	1.2
89102	2	9999	.7	49	1500	.8	9999	.3	787	1480	.3	9999	1.1	69	1620	1.1	9999	1.0	84	1620	1.1
89201	1	6004	.1	21	680	.2	9211	.1	149	1030	.1	6595	.1	26	750	.2					
89401	1	2514	.0	9	290	.0	5923	.1	69	650	.1	941	.0	14	360	.0					
89501	1	9999	1.0	16	1420	1.0	9999	.5	46	1470	.6	9999	1.0	21	1520	1.0					
89601	1	9999	.1	66	1200	.2	9999	.2	156	1760	.2	9999	.2	54	1400	.2					

TABLE 5.11-7 FTP & HFET RESULTS

						FTP						HFET				
EPA NO	S	DATE	ODOM	IW	AHP	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
01001	1	810114	7423	2750	11.5	1.08	14.85	372.1	1.98	1.69	22.2	.43	2.50	286.2	2.86	30.42
01001	2	810116		2750	11.5	.92	10.31	377.9	1.90	1.63	22.3	.40	2.44	275.5	2.47	31.61
01002	1	810219	18807	2750	13.0	.59	7.18	343.9	2.68	2.45	24.8	.30	1.66	252.1	3.57	34.69
01002	2	810223		2750	13.0	1.01	14.14	322.3	2.01	1.87	25.5	.33	2.60	254.2	2.99	34.19
01101	1	810122	8384	4000	19.5	.89	12.93	499.0	1.71	1.66	17.0	.08	2.10	428.3	2.52	20.54
01102	1	810123	15062	4000	15.6	.49	6.21	560.9	6.68	6.31	15.5	.06	.12	430.4	9.99	20.59
01103	1	810127	15620	4000	15.6	.77	14.98	663.6	1.42	1.23	12.9	.10	3.14	485.5	2.04	18.07
01104	1	810305	15803	4000	15.6	1.56	54.01	536.4	.69	.62	14.2	.51	43.33	354.9	.63	20.89
01201	1	810209	10923	4500	15.6	.56	8.08	560.7	5.54	4.71	15.4	.05	.28	425.6	5.62	20.81
01202	1	810303	7931	4500	15.6	.52	6.98	571.5	4.23	4.05	15.2	.04	.14	466.4	4.50	19.00
01301	1	810212	18277	5000	17.9	1.12	28.37	674.3	1.07	.96	12.3	.18	10.23	536.0	1.20	16.05
01302	1	810224	10012	5000	16.5	1.28	30.54	645.5	1.39	1.29	12.7	1.67	48.39	475.3	1.83	15.93
01303	1	810226	11433	5000	16.5	.63	11.81	654.7	2.08	1.90	13.1	.92	29.18	455.1	1.95	17.60
01304	1	810226	15451	5000	16.5	.71	13.60	642.1	3.01	2.79	13.3	1.25	32.03	421.6	2.96	18.64
01305	1	810304	6410	4500	16.9	.57	4.84	647.9	3.17	2.89	13.5	.10	.26	482.9	3.14	18.34
01306	1	810309	15135	5000	12.9	.57	6.71	741.8	3.33	2.96	11.8	.07	.48	558.3	3.30	15.86
01307	1	810318	2742	5000	16.5	.44	6.62	845.9	3.91	3.42	10.3	.07	.44	571.4	4.21	15.49
01308	1	810324	12871	5000	17.9	.55	4.92	685.3	3.14	2.89	12.8	.14	2.48	483.5	2.99	18.18
01309	1	810324	5124	5000	16.5	1.16	19.95	831.2	5.92	5.38	10.2	.39	3.77	678.8	7.43	12.93
01401	1	810121	8585	4500	18.5	1.34	12.60	616.7	2.87	2.60	13.8	.17	3.28	472.8	2.45	18.53
01402	1	810122	6329	4000	18.0	1.05	6.08	566.6	1.50	1.35	15.3	.15	.74	425.3	2.49	20.77
01403	1	810303	10268	4000	18.5	1.12	7.34	509.1	1.66	1.59	16.9	.18	.66	409.4	2.39	21.58
01404	1	810304	20045	4000	18.5	1.95	17.90	530.1	2.31	2.09	15.7	.17	.33	393.2	3.53	22.49
01405	1	810306	2844	4500	18.5	.67	8.79	689.7	3.23	2.86	12.6	.11	.83	598.2	4.47	14.78
01406	1	810316	8485	4500	18.5	.61	6.22	710.1	2.98	2.64	12.3	.13	.54	547.1	5.68	16.17
01407	1	810318	2771	4500	18.5	.77	8.63	687.9	2.81	2.46	12.6	.12	.29	572.1	5.14	15.48
01501	1	810123	19049	4000	19.0	.73	4.57	532.6	2.68	2.38	16.4	.10	.06	448.9	3.32	19.74
01502	1	810123	1570	4000	19.0	.58	2.21	584.5	1.51	1.43	15.0	.19	.18	495.3	2.44	17.87
01503	1	810227	23601	4000	14.9	.64	5.64	482.3	2.04	1.87	18.0	.13	.52	314.9	2.26	28.05

TABLE 5.11-7 FTP & HFET RESULTS (CONT'D)

EPA NO	S	DATE	ODOM	IW	AHP	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG
01601	1	810126	5718	4500	16.4	1.62	11.08	707.9	1.34	1.25	12.1	.36	.66	505.0	.79	17.48
01602	1	810128	13755	4000	19.0	1.47	16.79	549.7	1.63	1.48	15.3	.21	2.25	439.0	1.58	20.01
01603	1	810217	13978	4000	14.9	.70	4.60	581.3	2.09	1.98	15.0	.22	.07	437.2	2.80	20.25
01604	1	810311	13264	4000	14.9	.65	13.20	730.0	.67	.63	11.8	.10	1.04	549.6	1.00	16.08
01701	1	810204	6605	4500	14.9	.41	1.16	683.5	2.72	2.26	12.9	.14	.01	536.2	3.19	16.53
01702	1	810224	12249	4500	14.9	.63	3.41	663.4	2.05	1.93	13.2	.17	.11	495.6	2.51	17.87
01703	1	810305	16789	4500	16.3	.59	5.52	715.8	1.27	1.14	12.2	.10	.21	511.7	1.78	17.31
01704	1	810311	22156	4500	18.0	.50	5.48	744.0	1.51	1.41	11.8	.09	.24	592.2	2.31	14.96
02001	1	810128	20192	2750	13.0	.81	15.00	439.3	2.78	2.38	19.1	.30	7.12	327.2	4.14	26.13
02101	1	810209	6915	3000	10.3	.60	24.31	436.5	1.43	1.21	18.6	.14	4.19	312.3	2.34	27.77
02101	2	810210		3000	10.3	.52	16.22	437.9	1.65	1.31	19.1	.09	2.44	301.8	2.62	28.99
02201	1	810122	12597	3000	10.3	1.14	18.94	375.2	1.74	1.55	21.7	.50	11.27	270.6	2.10	30.59
68001	1	810130	94458	2750	11.5	1.39	13.06	414.4	4.51	3.82	20.2	.65	8.50	314.3	5.93	26.90
68001	2	810202		2750	11.5	1.23	14.92	417.3	4.79	3.99	19.9	.57	8.56	312.3	6.13	27.07
68001	3	810203		2750	11.5	1.31	14.84	401.8	5.14	4.23	20.7	.71	8.97	319.7	6.72	26.39
68102	1	810223	21979	4000	19.5	4.61	29.22	549.3	3.60	3.39	14.5	.94	5.81	506.6	5.87	17.10
68102	2	810224		4000	19.5	4.96	19.14	546.5	3.87	3.54	15.0	1.22	5.59	498.3	6.40	17.36
68201	1	810113	54788	4000	19.5	1.32	13.57	605.5	3.43	2.86	14.1	.31	.53	545.2	6.13	16.21
68202	1	810116	65803	4500	19.5	3.52	30.10	641.4	6.17	5.02	12.7	2.14	7.43	555.2	9.96	15.46
68203	1	810119	51091	4500	19.5	2.43	32.70	656.9	6.16	5.15	12.4	.97	4.16	541.5	9.17	16.09
68204	1	810116	47503	4500	19.5	5.21	119.82	641.0	3.27	2.66	10.5	3.29	37.35	546.2	5.68	14.41
68205	1	810119	24623	4500	19.5	6.79	85.33	596.1	2.13	1.82	11.8	1.06	9.81	599.1	4.26	14.35
68206	1	810120	49297	4500	19.5	3.90	60.34	669.8	6.00	5.05	11.4	1.75	16.42	636.3	11.22	13.28
68207	1	810206	41467	4500	19.5	3.78	54.75	615.1	5.71	4.93	12.4	1.90	11.34	553.0	10.48	15.37
68207	2	810209		4500	19.5	3.70	52.01	634.9	5.80	5.12	12.2	1.86	11.38	572.2	10.39	14.88
68208	1	810210	46524	4500	19.5	5.60	93.56	620.3	7.62	6.03	11.3	1.84	9.23	576.7	12.84	14.85
68208	2	810212		4500	19.5	3.89	48.40	671.1	7.32	6.53	11.7	1.52	4.72	574.4	11.57	15.12

TABLE 5.11-7 FTP & HFET RESULTS (CONT'D)

						FTP						HFET				
EPA NO	S	DATE	ODOM	IW	AHP	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
68209	1	810211	61425	4500	19.5	.92	8.08	679.2	4.27	3.58	12.8	.16	.40	579.0	7.27	15.29
68210	1	810213	101166	4500	19.5	7.79	71.61	659.7	5.03	4.48	11.1	1.46	7.36	545.6	7.58	15.79
68211	1	810302	23001	4500	19.5	2.42	14.26	728.9	9.04	8.22	11.7	1.17	4.18	552.3	11.75	15.76
68211	2	810303		4500	19.5	2.40	14.89	681.9	8.46	7.87	12.4	1.36	4.43	544.7	11.28	15.95
68301	1	810121	21333	4000	18.0	2.33	26.49	466.5	6.08	5.58	17.2	.72	4.77	430.1	9.39	20.16
68301	2	810123		4000	18.0	2.87	22.23	478.8	5.40	5.15	17.0	.71	4.11	441.4	8.73	19.70
68401	1	810114	68690	4000	18.0	1.68	18.65	594.7	5.50	4.56	14.1	.97	8.45	504.7	9.05	17.02
68402	1	810202	42116	4000	18.0	4.90	66.61	587.1	4.83	4.05	12.5	2.80	15.40	540.1	10.26	15.47
68403	1	810206	60807	4000	18.0	3.42	20.60	620.4	6.41	5.61	13.4	1.99	7.20	519.9	9.69	16.50
68501	1	810115	71208	4500	19.5	2.10	21.93	546.7	3.01	2.44	15.1	.51	3.64	441.3	3.09	19.77
68501	2	810116		4500	19.5	2.17	14.85	551.6	2.86	2.32	15.2	.54	3.17	438.4	2.94	19.92
68502	1	810119	27063	4500	19.5	1.42	4.43	561.5	3.21	2.83	15.5	.45	1.43	444.9	3.73	19.77
68601	1	810205	38584	4500	19.5	1.47	5.65	666.6	9.01	7.89	13.0	.59	3.57	582.4	10.69	15.03
68601	2	810206		4500	19.5	1.23	21.80	771.1	4.00	3.28	11.0	.19	2.71	678.0	5.55	12.99
68601	3	810210		4500	19.5	1.52	7.76	643.9	7.62	6.01	13.4	.64	5.73	621.8	9.91	14.01
68602	1	810226	53141	4500	19.5	2.08	13.50	649.7	6.26	5.63	13.1	1.31	7.96	539.3	8.20	15.95
68701	1	810120	43910	5000	19.0	2.48	10.94	566.1	5.19	4.54	15.0	1.50	3.88	500.6	9.12	17.34
68702	1	810213	68797	4500	19.0	3.16	16.22	689.5	8.22	7.86	12.2	1.62	6.57	610.0	11.93	14.18
68703	1	810220	111914	4500	19.0	4.77	20.34	795.9	3.23	2.92	10.5	.66	3.43	530.8	4.45	16.47
68703	2	810223		4500	19.0	4.32	35.29	613.6	5.48	5.10	13.0	1.83	5.00	466.4	8.77	18.47
68704	1	810227	67308	4500	19.0	2.98	20.37	648.0	7.00	6.35	12.9	1.69	5.49	515.0	8.88	16.76
68801	1	810120	62315	4500	19.0	5.36	126.04	578.1	2.62	2.18	11.2	4.00	71.91	509.5	3.32	13.96
68801	2	810122		4500	19.0	4.47	85.00	613.2	2.79	2.50	11.7	3.94	65.62	513.8	3.00	14.09
68802	1	810129	59880	4500	19.0	3.93	89.54	596.6	4.08	3.71	11.8	1.79	18.30	540.1	7.79	15.44
68802	2	810130		4500	19.0	3.64	71.75	610.4	4.78	4.27	12.1	1.73	19.32	533.9	8.14	15.57

TABLE 5.11-7 FTP & HFET RESULTS (CONT'D)

						FTP						HFET				
EPA NO	S	DATE	ODOM	IW	AHP	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
68803	1	810130	69686	4500	19.0	15.67	109.57	592.9	3.14	2.82	10.9	19.10	39.86	508.3	4.49	14.04
68804	1	810211	18354	4500	19.0	5.92	109.94	581.5	2.95	2.51	11.5	3.17	44.67	541.4	3.76	14.27
68901	1	810204	17268	4500	19.0	13.49	237.04	548.3	1.52	1.26	9.2	5.08	121.97	522.2	2.22	12.15
68901	2	810206		4500	19.0	6.77	97.80	705.3	2.44	2.03	10.1	3.45	89.82	523.3	2.74	13.13
68901	3	810210		4500	19.0	4.74	83.35	617.1	3.38	2.68	11.6	4.05	90.44	509.7	4.23	13.34
69301	1	810107	82867	3000	10.3	.63	11.97	485.0	3.17	2.78	17.5	.49	4.28	304.0	5.56	28.40
69302	1	810225	40182	3000	10.3	.71	11.12	478.2	4.76	4.05	17.8	.50	4.52	332.2	8.48	26.01
69401	1	810113	26103	3000	10.3	.78	15.00	483.5	1.21	1.01	17.4	.17	.67	355.8	1.31	24.82
69501	1	810107	34397	2750	10.5	1.11	8.32	378.1	2.69	2.28	22.5	.37	4.08	290.6	3.59	29.74
69501	2	810109		2750	10.5	1.15	8.80	376.0	2.84	2.44	22.5	.40	4.31	286.5	3.66	30.11
88001	1	810109	28329	3000	10.3	1.17	9.29	364.4	3.21	2.74	23.2	.61	2.93	284.5	4.05	30.47
88002	1	810312	42188	3000	10.3	1.45	12.06	396.5	6.85	6.40	21.1	.42	4.25	303.5	8.25	28.47
88101	1	810108	34582	4000	12.0	2.55	33.64	455.3	2.64	2.25	17.2	.25	2.12	366.9	4.09	23.90
88101	2	810112		4000	12.0	.77	11.79	494.2	2.57	2.15	17.2	.06	.59	369.8	3.13	23.91
88102	1	810303	31096	4000	12.0	2.95	37.28	450.9	1.45	1.35	17.1	.61	6.46	353.5	2.61	24.26
88102	2	810304		4000	12.0	2.56	39.30	462.7	1.45	1.30	16.6	.54	5.85	347.0	2.77	24.78
88102	3	810306		4000	12.0	1.82	28.20	473.5	1.76	1.55	16.9	.33	3.83	356.2	2.72	24.41
88201	1	810114	23557	4500	19.5	1.85	23.17	623.6	3.50	2.88	13.3	.32	2.88	555.4	5.69	15.81
88201	2	810115		4500	19.5	1.05	12.62	654.3	3.91	3.22	13.1	.24	1.74	550.3	5.41	16.01
88202	1	810115	27255	4000	19.5	.90	6.63	585.9	4.42	3.81	14.8	.15	.11	501.5	6.68	17.66
88203	1	810309	64074	4500	19.5	3.93	44.34	652.7	6.22	5.58	12.1	.66	2.61	573.6	10.14	15.30
88203	2	810311		4500	19.5	4.80	50.79	744.1	3.98	3.74	10.6	.62	5.06	516.2	5.64	16.86
88301	1	810114	29616	4500	19.5	1.77	32.30	642.3	3.63	3.11	12.7	.27	2.18	540.2	5.76	16.29
88301	2	810115		4500	19.5	.66	13.98	758.4	1.85	1.58	11.3	.08	2.43	609.5	2.50	14.45
88301	3	810116		4500	19.5	1.10	10.61	643.6	3.52	3.02	13.4	.16	.46	539.9	5.50	16.39

TABLE 5.11-7 FTP & HFET RESULTS (CONT'D)

						FTP						HFET				
EPA NO	S	DATE	ODOM	IW	AHP	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
88302	1	810120	14093	4500	19.5	2.77	33.47	603.4	2.55	2.29	13.3	.20	2.27	551.2	4.50	15.97
88302	2	810126		4500	19.5	1.80	21.35	648.0	2.78	2.63	12.9	.12	.73	551.2	4.90	16.04
88302	3	810127		4500	19.5	1.88	22.21	608.7	3.51	3.17	13.7	.15	1.41	518.7	6.34	17.01
88303	1	810202	28326	4500	19.5	2.74	32.78	650.0	3.68	3.23	12.5	.23	1.16	571.2	4.92	15.46
88303	2	810203		4500	19.5	.59	7.36	727.2	2.39	2.09	12.0	.06	1.31	656.9	3.42	13.45
88303	3	810205		4500	19.5	1.02	9.04	658.3	3.80	3.34	13.1	.11	.26	539.2	5.62	16.42
88304	1	810203	36172	4500	19.5	3.37	54.46	656.7	5.50	4.86	11.8	1.10	6.16	617.1	11.26	14.07
88305	1	810206	30022	4500	19.5	.97	4.84	634.3	3.85	3.36	13.8	.12	.35	556.0	6.81	15.92
88305	2	810211		4500	19.5	1.00	6.01	696.3	3.05	2.58	12.5	.08	.04	594.9	4.74	14.90
88306	1	810218	11680	4500	19.5	5.25	59.24	664.5	4.43	4.58	11.5	.84	3.95	563.0	6.96	15.51
88307	1	810220	33493	4500	19.5	.53	8.06	676.6	3.05	2.71	12.8	.09	.09	576.4	4.92	15.37
88501	1	810115	35019	4000	18.0	5.26	87.94	454.5	4.31	3.69	14.6	2.66	44.47	432.3	7.07	17.37
88501	2	810116		4000	18.0	3.40	51.28	506.4	5.22	4.45	14.8	2.27	42.63	436.7	7.25	17.36
88501	3	810120		4000	18.0	2.91	34.71	505.5	6.21	5.52	15.6	1.15	8.32	473.6	10.07	18.09
88601	1	810120	20311	4500	18.5	2.86	14.51	592.6	5.84	4.89	14.2	1.38	4.51	510.3	8.34	17.00
88602	1	810122	17850	4500	18.0	4.99	61.70	568.7	3.02	2.91	13.0	2.60	13.43	430.2	5.56	19.30
88701	1	810130	16959	4500	18.0	2.87	36.83	617.2	5.26	4.43	13.0	1.77	15.98	491.6	7.59	16.98
88702	1	810309	19612	4500	18.0	2.67	37.17	676.9	5.88	5.24	11.9	1.02	6.94	546.6	8.09	15.81
88801	1	810126	22072	4500	19.5	2.32	17.09	515.2	4.68	4.44	16.1	.83	3.50	407.2	5.34	21.35
88802	1	810205	32123	4500	19.5	1.97	29.70	539.7	5.73	4.98	15.0	.72	4.20	457.5	7.74	19.02
88802	2	810210		4500	19.5	1.68	18.93	537.1	4.54	3.59	15.5	.65	3.67	472.9	7.44	18.45
88901	1	810123	30127	4500	19.5	2.16	34.70	617.3	7.50	6.74	13.1	.38	2.05	558.5	13.54	15.76
88901	2	810127		4500	19.5	1.30	15.79	610.3	2.92	2.48	13.9	.27	2.52	511.5	4.50	17.17
88901	3	810128		4500	19.5	.95	10.97	655.4	3.11	2.64	13.1	.23	.88	520.8	4.70	16.96
88902	1	810213	40783	4500	19.5	3.04	38.70	514.4	5.40	4.81	15.2	.48	3.94	414.0	9.87	21.03
88902	2	810218		4500	19.5	3.96	44.52	579.7	3.43	3.37	13.4	.52	13.92	429.2	6.02	19.59
88902	3	810219		4500	19.5	3.42	35.25	516.1	4.99	4.74	15.2	.48	4.43	406.4	9.09	21.38

TABLE 5.11-7 FTP & HFET RESULTS (CONT'D)

						FTP						HFET				
EPA NO	S	DATE	ODOM	IW	AHP	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
89001	1	810202	55479	4500	19.5	4.28	57.56	670.7	7.01	6.13	11.4	2.10	10.33	592.6	13.69	14.41
89001	2	810209		4500	19.5	3.78	56.15	698.0	6.19	5.30	11.1	1.98	16.02	593.8	12.34	14.18
89002	1	810202	42486	4500	19.5	6.22	66.59	710.1	3.43	2.87	10.6	2.89	36.48	595.2	6.78	13.40
89002	2	810205		4500	19.5	5.72	79.27	773.2	2.05	1.69	9.7	2.40	41.10	598.8	3.91	13.22
89002	3	810206		4500	19.5	6.56	64.45	682.1	3.92	3.24	11.0	2.70	33.66	577.2	7.15	13.89
89003	1	810205	51881	4500	19.5	3.25	33.96	699.6	6.71	5.53	11.6	1.68	12.83	550.5	11.91	15.40
89004	1	810224	31851	4500	19.5	5.15	76.00	618.4	4.13	3.84	11.8	1.97	12.17	471.9	8.51	17.83
89101	1	810205	45006	4500	19.5	5.62	50.59	658.7	4.85	4.00	11.7	1.79	8.67	612.8	10.39	14.03
89101	2	810209		4500	19.5	4.53	51.45	687.7	5.15	4.31	11.3	1.66	7.06	604.5	10.37	14.28
89102	1	810218	39476	4500	19.5	3.09	29.54	637.6	7.18	7.29	12.8	1.52	6.06	510.6	11.93	16.89
89102	2	810220		4500	19.5	2.87	43.76	644.5	8.03	7.22	12.3	1.52	10.96	527.2	13.02	16.15
89201	1	810122	22272	3500	16.0	1.77	13.32	543.0	4.01	3.78	15.6	.47	2.90	499.9	4.71	17.53
89401	1	810114	15277	2750	13.0	.49	13.17	465.6	3.14	2.69	18.2	.11	5.59	356.0	4.76	24.29
89501	1	810109	24652	3000	10.3	.88	10.20	497.0	1.48	1.31	17.2	.07	2.86	344.3	1.89	25.41
89601	1	810109	19017	3000	10.3	.99	12.35	391.6	3.08	2.75	21.4	.30	4.84	279.9	3.75	30.75

TABLE 5.11-8 PARAMETER AND PROPANE GAIN CHECKS

EPA NO	S	IDLE SPEED MEAS	IDLE SPEED SPEC	DWELL MEAS	DWELL SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	GAIN CK NEU	GAIN CK DR
01001	1	890	600	NA	NA	+11	+12	22	22	53	49	DEC	N/A
01001	2	890	600	NA	NA	+11	+12	21	22	50	49	80	N/A
01002	1	1120	600	NA	NA	+12	+12	25	22	51	49	100	N/A
01002	2	630	600	NA	NA	+13	+12	23	22	51	49	DEC	N/A
01101	1	820	750	NA	NA	+07	+10	24	20	41	44	120	N/A
01102	1	620	650	NA	NA	+07	+10	24	24	43	42	210	50
01103	1	710	750	NA	NA	+05	+10	17	20	17	44	140	N/A
01104	1	930	750	NA	NA	+09	+10	22	24	38	44	130	N/A
01201	1	610	600	NA	NA	+07	+08	17	18	34	38	100	20
01202	1	570	500	NA	NA	+04	+08	14	18	33	36	60	30
01301	1	550	500	NA	NA	+06	+08	22	24	37	47	50	30
01302	1	520	500	NA	NA	+08	+08	24	24	39	47	40	20
01303	1	540	500	NA	NA	+14	+08	33	24	44	47	80	40
01304	1	670	500	NA	NA	+18	+08	33	24	50	47	60	20
01305	1	550	500	NA	NA	+09	+08	24	24	44	44	30	DEC
01306	1	580	500	NA	NA	+08	+08	25	24	39	36	130	60
01307	1	790	700	NA	NA	+08	+08	28	24	49	44	40	N/A
01308	1	750	500	NA	NA	+12	+08	24	24	35	36	270	70
01309	1	640	700	NA	NA	+06	+04	19	17	27	24	100	20
01401	1	630	650	NA	NA	+08	+12	15	20	35	41	150	N/A
01402	1	580	650	NA	NA	+10	+12	16	20	38	41	10	N/A
01403	1	540	600	NA	NA	+12	+12	19	18	44	40	DEC	N/A
01404	1	700	600	57	44	+14	+12	18	18	45	40	30	N/A
01405	1	610	600	NA	NA	+13	+12	19	20	40	42	260	120
01406	1	610	600	NA	NA	+11	+12	19	20	39	42	380	100
01407	1	570	600	NA	NA	+14	+12	22	20	41	42	90	20
01501	1	540	600	NA	NA	+10	+10	16	17	48	48	DEC	N/A
01502	1	550	600	NA	NA	+13	+10	18	16	49	48	30	10
01503	1	680	600	NA	NA	+07	+06	23	13	54	43	120	N/A

TABLE 5.11-8 PARAMETER AND PROPANE GAIN CHECKS (CONT'D)

EPA NO	S	IDLE SPEED MEAS	IDLE SPEED SPEC	DWELL MEAS	DWELL SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	GAIN CK NEU	GAIN CK DR
01601	1	590	575	NA	NA	+06	+10	14	22	47	45	20	DEC
01602	1	640	600	NA	NA	+07	+08	14	22	40	45	50	N/A
01603	1	570	575	NA	NA	+08	+08	18	22	45	45	100	40
01604	1	540	575	NA	NA	+07	+08	18	16	19	41	110	40
01701	1	620	550	NA	NA	+06	+08	17	21	43	49	80	10
01702	1	620	550	NA	NA		+08		21		49	120	20
01703	1	610	550	NA	NA	+10	+08	20	19	45	47	DEC	DEC
01704	1	650	550	NA	NA	+06	+06	18	17	44	45	80	20
02001	1	860	800	NA	NA	+10	+08	21	21	40	45	DEC	N/A
02101	1	840	800	NA	NA	+05	+06	20	21	39	39	DEC	N/A
02101	2	840	800	NA	NA	+06	+06	20	21	41	39	10	N/A
02201	1	1000	800	56	52	+05	+06	13	16	29	37	DEC	N/A
68001	1	1210	750	62	52	+11	+12	19	21	32	38	40	N/A
68001	2	860	750	61	52	+07	+12	20	21	33	38	DEC	N/A
68001	3	780	750	51	52	+12	+12	23	21	34	38	40	N/A
68102	1	740	600	NA	NA	+09	+06	24	20	34	30	DEC	N/A
68102	2	710	600	NA	NA	+08	+06	23	20	33	30	20	N/A
68201	1	540	600	NA	NA	+08	+08	26	23	43	38	80	40
68202	1	530	600	NA	NA	+07	+08	20	23	34	38	140	50
68203	1	630	600	NA	NA	+08	+08	19	23	33	38	40	10
68204	1	570	600	NA	NA	+07	+08	20	23	32	38	80	40
68205	1	660	600	NA	NA	+08	+08	20	23	20	38	20	N/A
68206	1	620	600	NA	NA	+05	+08	19	23	34	38	50	20
68207	1	620	600	NA	NA	+06	+08	19	23	33	38	10	DEC
68207	2	620	600	NA	NA	+06	+08	20	23	33	38	80	10
68208	1	580	600	NA	NA	+10	+08	24	23	39	38	DEC	DEC
68208	2	620	600	NA	NA	+09	+08	23	23	38	38	60	20

TABLE 5.11-8 PARAMETER AND PROPANE GAIN CHECKS (CONT'D)

EPA NO	S	IDLE SPEED MEAS	IDLE SPEED SPEC	DWELL MEAS	DWELL SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	GAIN CK NEU	GAIN CK DR
68209	1	610	600	NA	NA	+06	+08	22	23	41	38	60	10
68210	1	660	600	NA	NA	+04	+08	12	23	28	38	100	20
68211	1	760	600	NA	NA	+09	+08	21	22	36	34	120	20
68211	2	610	600	NA	NA	+10	+08	23	22	39	34	90	30
68301	1	650	700	NA	NA	-01	000	15	14	30	30	DEC	N/A
68301	2	560	700	NA	NA	-02	000	14	14	35	30	50	N/A
68401	1	860	750	NA	NA	+01	+02	18	18	44	40	200	70
68402	1	1090	750	NA	NA	+08	+02	22	18	39	40	40	DEC
68403	1	760	750	NA	NA		+02		18		40	100	30
68501	1	770	600	NA	NA	+08	+10	14	18	22	24	60	N/A
68501	2	680	600	NA	NA	+07	+10	14	18	23	24	170	N/A
68502	1	890	700	NA	NA	+08	+12	27	32	58	46	80	N/A
68601	1	610	600	NA	NA	+08	+08	24	25	42	45	DEC	DEC
68601	2	610	600	NA	NA	-03	+08	02	25	17	45	40	20
68601	3	590	600	NA	NA	+07	+08	24	25	41	45	50	10
68602	1	620	600	NA	NA	-01	+08	17	15	39	38	DEC	DEC
68701	1	530	650	NA	NA	+10	+12	21	25	35	51	80	30
68702	1	580	650	NA	NA	+13	+12	21	25	35	51	50	30
68703	1	950	850	NA	NA	-02	+12	06	19	20	43	570	N/A
68703	2	880	850	NA	NA	+13	+12	21	19	38	43	150	N/A
68704	1	640	650	NA	NA	+11	+12	17	19	38	43	110	30
68801	1	520	550	NA	NA	+06	+06	28	26	36	36	DEC	DEC
68801	2	560	550	NA	NA	+06	+06	29	26	36	36	40	10
68802	1	600	550	NA	NA	+13	+06	34	27	43	36	20	DEC
68802	2	600	550	NA	NA	+12	+06	35	27	41	36	30	DEC

TABLE 5.11-8 PARAMETER AND PROPANE GAIN CHECKS (CONT'D)

EPA NO S	IDLE SPEED MEAS	IDLE SPEED SPEC	DWELL MEAS	DWELL SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	GAIN CK NEU	GAIN CK DR
68803 1	480	550	NA	NA	+04	+06	26	26	39	35	60	20
68804 1	530	650	NA	NA	+04	+06	25	27	34	36	30	DEC
68901 1	530	650	NA	NA	+06	+16	13	23	22	35	DEC	DEC
68901 2	520	650	NA	NA	+05	+16	12	23	23	35	120	50
68901 3	640	650	NA	NA	+17	+16	25	23	36	35	70	10
69301 1	970	850	47	52	+06	+08	19	19	20	37	DEC	N/A
69302 1	930	850	53	52	+10	+08	23	19	26	37	DEC	N/A
69401 1	960	700	53	52	+16	+05	25	17	24	33	DEC	N/A
69501 1	950	900	62	52	+05	+06	20	16	30	25	DEC	N/A
69501 2	880	900	62	52	+05	+06	19	16	29	25	DEC	N/A
88001 1	750	600	NA	NA	+11	+12	22	22	47	42	20	N/A
88002 1	870	600	NA	NA	+09	+12	23	22	53	42	60	N/A
88101 1	790	750	NA	NA	+08	+08	22	18	42	39	DEC	N/A
88101 2	730	750	NA	NA	+09	+08	19	18	38	39	120	N/A
88102 1	790	750	NA	NA	+08	+08	25	23	38	37	50	N/A
88102 2	830	750	NA	NA	+08	+08	24	23	37	37	130	N/A
88102 3	790	750	NA	NA	+07	+08	25	23	37	37	140	N/A
88201 1	600	500	NA	NA	+03	+04	16	17	40	36	50	10
88201 2	650	500	NA	NA	+03	+04	16	17	40	36	160	50
88202 1	620	500	NA	NA	+04	+04	16	17	40	36	180	40
88203 1	570	500	NA	NA	+06	+04	20	17	44	38	DEC	DEC
88203 2	670	500	NA	NA	+01	+04	10	17	34	38	90	10
88301 1	560	500	NA	NA	+09	+08	23	23	39	36	DEC	DEC
88301 2	570	500	NA	NA	-02	+08	13	23	29	36	120	50
88301 3	520	500	NA	NA	+09	+08	26	23	41	36	DEC	DEC

TABLE 5.11-8 PARAMETER AND PROPANE GAIN CHECKS (CONT'D)

EPA NO	S	IDLE SPEED MEAS	IDLE SPEED SPEC	DWELL MEAS	DWELL SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	GAIN CK NEU	GAIN CK DR
88302	1	690	600	NA	NA	+03	+08	19	23	37	36	DEC	N/A
88302	2	680	600	NA	NA	+03	+08	18	23	38	36	100	N/A
88302	3	620	600	NA	NA	+08	+08	24	23	40	36	40	N/A
88303	1	480	500	NA	NA	+06	+08	21	23	41	36	DEC	DEC
88303	2	550	500	NA	NA	-03	+08	12	23	32	36	150	70
88303	3	520	500	NA	NA	+08	+08	23	23	42	36	120	50
88304	1	720	700	NA	NA	+06	+08	20	23	34	36	70	20
88305	1	470	500	NA	NA	+10	+08	25	23	43	36	50	30
88305	2	630	500	NA	NA	+05	+08	19	23	31	36	150	10
88306	1	640	700	NA	NA	+09	+08	21	23	36	36	170	N/A
88307	1	560	500	NA	NA	+10	+08	26	23	47	36	120	40
88501	1	510	700	NA	NA	-01	000	14	19	29	32	DEC	DEC
88501	2	690	700	NA	NA	+01	000	17	19	30	32	150	30
88501	3	690	700	NA	NA	+01	000	17	19	30	32	140	20
88601	1	610	750	NA	NA	+03	+02	17	17	35	32	90	40
88602	1	660	750	NA	NA	-04	+02	10	19	27	32	90	N/A
88701	1	660	650	NA	NA	+04	+06	23	28	33	42	DEC	DEC
88702	1	890	750	NA	NA	+04	+04	19	20	34	38	30	10
88801	1	750	600	NA	NA	+12	+10	21	18	38	35	80	N/A
88802	1	520	600	NA	NA	+11	+10	19	18	35	35	20	DEC
88802	2	570	600	NA	NA	+09	+10	18	18	34	35	50	10
88901	1	540	600	NA	NA	+07	+08	15	18	36	45	10	DEC
88901	2	440	600	NA	NA	+09	+08	18	18	35	45	120	70
88901	3	610	600	NA	NA	+09	+08	18	18	35	45	160	70
88902	1	800	700	NA	NA	+09	+06	22	16	47	44	40	N/A
88902	2	980	700	NA	NA	+01	+06	08	16	39	44	120	N/A
88902	3	710	700	NA	NA	+07	+06	17	16	45	44	90	N/A

TABLE 5.11-8 PARAMETER AND PROPANE GAIN CHECKS (CONT'D)

EPA NO	S	IDLE SPEED MEAS	IDLE SPEED SPEC	DWELL MEAS	DWELL SPEC	TIMING MEAS	TIMING SPEC	MECH ADV MEAS	MECH ADV SPEC	TOTAL ADV MEAS	TOTAL ADV SPEC	GAIN CK NEU	GAIN CK DR
89001	1	520	650	NA	NA	+10	+14	23	23	47	51	30	DEC
89001	2	630	650	NA	NA	+11	+14	21	23	51	51	90	20
89002	1	730	650	NA	NA	+04	+06	17	20	44	48	110	N/A
89002	2	610	650	NA	NA	-02	+06	08	20	30	48	70	N/A
89002	3	630	650	NA	NA	+05	+06	20	20	46	48	80	N/A
89003	1	720	650	NA	NA	+12	+14	21	23	47	51	100	DEC
89004	1	810	650	NA	NA	+05	+06	17	20	46	48	30	N/A
89101	1	470	650	NA	NA	+09	+12	19	21	44	54	30	DEC
89101	2	580	650	NA	NA	+12	+12	23	21	51	54	50	20
89102	1	590	650	NA	NA	+14	+12	22	21	51	49	60	10
89102	2	630	650	NA	NA	+13	+12	23	21	48	49	40	10
89201	1	740	850	NA	NA	+12	+03	23	14	37	34	30	N/A
89401	1	880	800	NA	NA	+10	+08	19	20	39	44	50	N/A
89501	1	610	725	59	52	-01	+08	08	17	07	35	DEC	N/A
89601	1	940	900	NA	NA	+06	+06	18	16	23	25	40	N/A

TABLE 5.11-9 DIAGNOSIS AND MAINTENANCE OF REPAIRED VEHICLES

EPA ID	INITIAL DIAG	FAIL	-------COMMERCIAL REPAIR------- REPAIRS	DIAGNOSIS	---RESTORATIVE MAINTENANCE--- REPAIRS	DIAGNOSIS	COMMENTS
01001	IDLE SPEED	CO	REPL PLUGS, ADJ IDLE SPEED, TIMING AND CARB.	IDLE SPEED			MINOR REDUCTION OF HC & CO. MET FED STANDARDS BEFORE AND AFTER REPAIR.
01002	IDLE SPEED	RPM	ADJ IDLE SPEED	NO PROBLEMS			INCREASED HC & CO. MET FED STD BEFORE AND AFTER REPAIR.
02101	NO PROBLEMS	CO	ADJ IDLE SPEED AND CARB.	NO PROBLEMS			REDUCED HC & CO. MEETS FED STANDARDS.
68001	IDLE SPEED, DWELL	RPM	ADJ IDLE SPEED	IDLE SPEED, TIMING, DWELL	ADJ IDLE SPD, TIMING, DWELL	NO PROBLEMS	NO IMPROVEMENT. MET FED STD BEFORE AND AFTER REPAIR.
68102	IDLE SPEED, VACUUM HOSE	HC,CO	ADJ CARBURETOR	IDLE SPEED, VACUUM HOSE			REDUCED CO. NO IMPROVEMENT IN HC.
68207	NO PROBLEMS	CO	ADJ IDLE SPEED, AND CARBURETOR	NO PROBLEMS			NO IMPROVEMENT. HC & CO HIGH.
68208	NO PROBLEMS	HC,CO	ADJ CARBURETOR	NO PROBLEMS			SIGNIFICANT REDUCTION OF HC & CO.
68211	IDLE SPEED	RPM	ADJ IDLE SPEED	NO PROBLEMS			NO IMPROVEMENT.
68301	NO PROBLEMS	CO	ADJ IDLE SPEED & CARBURETOR.	IDLE SPEED			NO IMPROVEMENT.
68501	IDLE SPEED	CO	ADJ IDLE SPEED, AND CARBURETOR	IDLE SPEED			REDUCED CO.
68601	NO PROBLEMS	HC,CO	ADJ IDLE SPEED, TIMING, & CARB	TIMING,MECH ADVANCE	REPL DIST CAP & ROTOR. ADJ IDLE SPEED, TIMING, AND CARBURETOR.	NO PROBLEMS	INCREASED CO DURING REPAIR PHASE. REDUCED CO AFTER RM MEETS FED STD FOR HC & CO. NOX HIGH.
68703	IDLE SPEED, VACUUM HOSE	HC	ADJ IDLE SPEED,	NO PROBLEMS			INCREASED CO & NOX.
68901	NO PROBLEMS	CO	ADJ TIMING & CARBURETOR	NO PROBLEMS			REDUCED HC & CO.
68902	TIMING & VACUUM HOSE	CO	ADJ CARBURETOR	TIMING & VACUUM HOSE			REDUCED HC & CO.

TABLE 5.11-9 DIAGNOSIS AND MAINTENANCE OF REPAIRED VEHICLES

EPA NO	INITIAL DIAG	FAIL	COMMERCIAL REPAIR REPAIRS	COMMERCIAL REPAIR DIAGNOSIS	RESTORATIVE MAINTENANCE REPAIRS	RESTORATIVE MAINTENANCE DIAGNOSIS	COMMENTS
01001	IDLE SPEED	CO	REPL PLUGS, ADJ IDLE SPEED, TIMING AND CARB.	IDLE SPEED			MINOR REDUCTION OF HC & CO. MET FED STANDARDS BEFORE AND AFTER REPAIR.
01002	IDLE SPEED	RPM	ADJ IDLE SPEED	NO PROBLEMS			INCREASED HC & CO. MET FED STD BEFORE AND AFTER REPAIR.
02101	NO PROBLEMS	CO	ADJ IDLE SPEED AND CARB.	NO PROBLEMS			REDUCED HC & CO. MEETS FED STANDARDS.
68001	IDLE SPEED, DWELL	RPM	ADJ IDLE SPEED	IDLE SPEED, TIMING, DWELL	ADJ IDLE SPD, TIMING, DWELL	NO PROBLEMS	NO IMPROVEMENT. MET FED STD BEFORE AND AFTER REPAIR.
68102	IDLE SPEED, VACUUM HOSE	HC,CO	ADJ CARBURETOR	IDLE SPEED, VACUUM HOSE			REDUCED CO. NO IMPROVEMENT IN HC.
68207	NO PROBLEMS	CO	ADJ IDLE SPEED, AND CARBURETOR	NO PROBLEMS			NO IMPROVEMENT. HC & CO HIGH.
68208	NO PROBLEMS	HC,CO	ADJ CARBURETOR	NO PROBLEMS			SIGNIFICANT REDUCTION OF HC & CO.
68211	IDLE SPEED	RPM	ADJ IDLE SPEED	NO PROBLEMS			NO IMPROVEMENT.
68301	NO PROBLEMS	CO	ADJ IDLE SPEED & CARBURETOR.	IDLE SPEED			NO IMPROVEMENT.
68501	IDLE SPEED	CO	ADJ IDLE SPEED, AND CARBURETOR	IDLE SPEED			REDUCED CO.
68601	NO PROBLEMS	HC,CO	ADJ IDLE SPEED, TIMING, & CARB	TIMING,MECH ADVANCE	REPL DIST CAP & ROTOR, ADJ IDLE SPEED, TIMING, AND CARBURETOR.	NO PROBLEMS	INCREASED CO DURING REPAIR PHASE. REDUCED CO AFTER RM MEETS FED STD FOR HC & CO. NOX HIGH.
68703	IDLE SPEED, VACUUM HOSE	HC	ADJ IDLE SPEED,	NO PROBLEMS			INCREASED CO & NOX.
68801	NO PROBLEMS	CO	ADJ TIMING & CARBURETOR	NO PROBLEMS			REDUCED HC & CO.
68802	TIMING & VACUUM HOSE	CO	ADJ CARBURETOR	TIMING & VACUUM HOSE			REDUCED HC & CO.

TABLE 5.11-9 DIAGNOSIS AND MAINTENANCE OF REPAIRED VEHICLES (CONT'D)

EPA NO	INITIAL DIAG	FAIL	-------COMMERCIAL REPAIR------- REPAIRS	DIAGNOSIS	---RESTORATIVE MAINTENANCE--- REPAIRS	DIAGNOSIS	COMMENTS
88501	IDLE SPEED, MECH ADV, VACUUM HOSE	HC,CO	ADJ IDLE SPEED & CARB. CORR VAC HOSE ROUTING	NO PROBLEMS (CO HIGH @ 2500 RPM)	OVERHAULED CARB	NO PROBLEMS	SIGNIFICANT REDUCTION OF HC & CO DURING REPAIR PHASE. FURTHER REDUCTION AFTER RM.
88802	IDLE SPEED	CO	ADJ IDLE SPEED & CARBURETOR.	NO PROBLEMS			REDUCED HC & CO.
88901	EGR, VACUUM ADVANCE	CO	ADJ IDLE SPEED & CARBURETOR.	IDLE SPEED, EGR & VAC ADVANCE.	REPL DIST CAP & ROTOR. ADJ IDLE SPEED.	EGR, VACUUM ADVANCE	SIGNIFICANT REDUCTION OF HC & CO DURING REPAIR PHASE. MEETS FED STD. FURTHER REDUCTION AFTER RM.
88902	IDLE SPEED, TIMING & EGR	CO	ADJ IDLE SPEED, TIMING & CARB.	IDLE SPEED, TIMING & EGR.	ADJ IDLE SPEED, TIMING & CARB.	EGR	INCREASED HC & CO DURING REPAIR PHASE. NO IMPROVEMENT AFTER RM.
89001	IDLE SPEED, EGR	HC,CO	ADJ IDLE SPEED & CARBURETOR.	EGR			NO IMPROVEMENT.
89002	IDLE SPEED, AIR FILTER	CO	ADJ IDLE SPEED, TIMING & CARB.	TIMING & AIR FILTER	ADJ IDLE SPEED, TIMING & CARB. REPL AIR FILTER	NO PROBLEMS	NO IMPROVEMENT IN EMISSIONS FOR EITHER PHASE.
89101	IDLE SPEED, TIMING & VAC ADVANCE	HC,CO	REPL PLUGS, DIST CAP & ROTOR. ADJ IDLE SPEED, CARB & TIMING.	IDLE SPEED			SIGNIFICANT REDUCTION OF HC & CO.
89102	AIR FILTER	CO	REPL PLUGS, DIST CAP, ROTOR & AIR FILTER. ADJ IDLE SPEED & CARB.	NO PROBLEMS			INCREASED CO.